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Vol. 61

No. 268

CATALOGUE OF THE GENUS *MUREX* LINNÉ (MOLLUSCA: GASTROPODA); MURICINAE, OCENEBRINAE

By

EMILY H. VOKES

1971

Paleontological Research Institution
Ithaca, New York 14850, U.S.A.

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CATALOGUE OF THE GENUS *MUREX* LINNÉ (MOLLUSCA: GASTROPODA); MURICINAE, OCENEBRINAE[1]

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INTRODUCTION

Murex, being one of the original Linnaean genera, has had approximately 2500 species referred to it. Less than 50 per cent of these are today placed in the subfamily Muricinae, much less in the genus *Murex s.s.,* as presently recognized, and only about 700 names represent valid muricine species. Over the years the writer has attempted to compile an index of all binomena originally assigned to *Murex* or to one of the genera today considered to be among the Muricinae. (Also included are those few species, now referred to the Muricinae, which were named in some other genus.) The present work is a result of this compilation and although it is undoubtedly incomplete, nevertheless it is the most definitive compilation to date. Any reader knowing of overlooked species is invited, even begged, to pass on the information.

Certain conventions have been devised to give as much information as possible, but a few words of explanation will be necessary. All names listed in capital letters represent nomenclaturally valid taxa, so far as the writer is aware. Invalid names, by reason of being preoccupied, objective synonyms, or nude names, are in italics. Unless otherwise noted the taxon was originally named "*Murex.*" Where some other genus was employed the original genus appears, in brackets, immediately after the species name. Incorrect *subsequent* references to *Murex* have been ignored, however. The original reference is given and, if the species is not figured there, a secondary reference to a figure may follow. No author is cited for this second reference unless different from the original. Species originally based on fossil types are preceeded by an asterisk, but it should be noted that the form may also occur in the Recent fauna (likewise, Recent types may also have fossil representatives). *Objective* synonyms are indicated by a simple equality sign (=) but *subjective* synonyms bear a query (? =), though there may be no real question in the writer's mind. Objective synonyms are usually the result of two taxa being based on the same figures in Martini and Chemnitz, or some other iconography, or are new names for preoccupied taxa. In the first instance the junior synonym will carry the notation: "both for Martini, fig. 000." In the latter case the old name will say "see *x-us* Smith, n.n." and the new name will bear the notation "n.n. pro *x-us* Brown *non* Jones."

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[1] Formerly Tritonaliinae, see ICZN Opinion 886, 1969

For taxa that are not preoccupied but represent misidentifications by an author the citation reads only "for *x-us* Smith, 1900, *non* Jones." This means that the name as originally cited by Smith was as "*x-us* Jones" but the subsequent writer is of the opinion that the two forms are not identical. This type of renaming was carried to the extreme by De Gregorio, who named in one paper (1885, Boll. Soc. Malac. Ital., v. 10, pp. 36-288) over 130 new species-groups of "*Murex,*" almost all based on other authors' "mis-identifications," whether real or imagined. In certain cases De Gregorio was undoubtedly correct, but this writer does not have the material (nor patience) to evaluate all of these names. Nomenclaturally they are validly proposed, and while many are synonyms of the older name, not all are; therefore, they cannot be disregarded. Anyone working with the European species of Muricinae would be well advised to examine them closely. De Gregorio, however, did not state that his names were new names for misidentified species but simply cited a figure from some work as an illustration of his "species." For this reason the De Gregorio citations are not treated as mentioned above, but say only "for Hörnes, 1856, pl. 0, fig. 0." Only in cases where the author *specifically* stated that his name is a new name for some misidentified species is the "for Smith *non* Jones" format utilized.

In addition to the simple bibliographic data indicated above, there has also been an attempt to give as much distributional information as possible. Locality, geologic age for fossil types, and present generic assignment are given where known. Regretfully there will be many question marks and many blank spots, for the information is not known to the writer. The taxonomic scheme followed is basically that of Vokes (1964, Malacologia, v. 2, pp. 1-41), for better or for worse. While the reader may not always agree with the assignments, he can refer to that paper for the rationale behind the assignment. However, much work has been done on genus-group and higher levels of taxa since that paper was written and so there have been some changes made, based primarily on radular resemblances and differences. The following classification should supercede that of Vokes, 1964, page 3. Names in capitals represent changed or new (since 1964) taxa.[2]

MURICINAE

Genus: *Murex*
    Murex s.s., Haustellum, Bolinus, Harmatia
Genus: *Chicoreus*
    Chicoreus s.s., Siratus, Phyllonotus
Genus: *Hexaplex*
Genus: *Pterynotus*
    Pterynotus s.s., Naquetia, Pterochelus, PURPURELLUS, [NOTHOTYPHIS to Typhinae]
Genus: *Poirieria*
    Poirieria s.s., Paziella, FLEXOPTERON, PAZINOTUS, *Panamurex*
Genus: CALOTROPHON
    CALOTROPHON *s.s.,* ATTILIOSA
Genus: ASPELLA
    ASPELLA *s.s.,* DERMOMUREX, TAKIA, GRACILIMUREX
Genus: HOMALOCANTHA
Genus: *Murexiella*
    Murexiella s.s., SUBPTERYNOTUS
Genus: MUREXSUL
Genus: MAXWELLIA
Genus: FAVARTIA
    Favartia s.s., CARIBIELLA
Genus: *Muricopsis*

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[2] While this paper was in press, Keen (1971, Veliger, v. 13, p. 296) proposed a new subfamily, ASPELLINAE, which would include certain genera here placed in the Muricinae. The writer is not convinced of the necessity for the erection of this subfamily as the shell morphology, radula, and operculum of most of the genera included by Keen are identical with the Muricinae. The thin chalky layer, which is the single most distinctive character perhaps, occurs in lesser degrees in several other genera of the Muricidae (see Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 7, for further discussion of this layer) and does not in itself seem to justify distinction. The members of "Aspellinae" with this chalky layer, including *Aspella, Calotrophon, Favartia* and their respective subgenera, are here included in the Muricinae. The two other genera placed in the new subfamily by Keen are not included in this catalogue. They are *Eupleura* and *Phyllocoma.* In the writer's opinion, *Eupleura,* together with *Vitularia, Crassilabrum, Hanetia,* and *Urosalpinx,* belong in yet another subfamily, characterized by having an open siphonal canal, a purpuroid operculum, and a radula similar to that of the Ocenebrinae. The genus *Phyllocoma* seems completely out of place in any of these groups. Its placement in the Muricidae is predicated upon the slightly muricine appearance of the radula, but the radula of *Phyllocoma scalariformis* (Broderip), based on the unpublished drawings made by Radwin and D'Attilio (personal communication), is closer to that figured by Thiele (1931, Handbuch Syst. Weichteir., p. 342) as *"Xancus ovoideus* (Kiener)" [*Turbinella laevigata* Anton] than to any muricine radula, so the placement of *Phyllocoma* even in the family Muricidae may be specious. Morphologically the shell of *Phyllocoma* is more akin to the Cymatiidae, especially in the development of the large parietal tooth so characteristic of that family but rarely developed in the Muricinae and totally lacking in the other members of Keen's Aspellinae.

OCENEBRINAE

Genus: OCENEBRA [formerly *Tritonalia*]
  OCENEBRA *s.s., Hadriania, Miocenebra,* OCINEBRINA
Genus: *Jaton*
  Jaton s.s., Pterorytis, Ceratostoma
Genus: *Pteropurpura*
  Pteropurpura s.s., Ocinebrellus, Calcitrapessa, Poropteron

In the assignments made in this paper all genus-group names are treated equally. Thus, for example, one will see "*PHYLLONOTUS*" after an entry. This may be interpreted as "*Murex (Phyllonotus),*" "*Chicoreus (Phyllonotus),*" or "*Phyllonotus s.s.*" according to one's preference. For the species of Muricinae and Ocenebrinae the assignments will be as precise as possible but the more removed from *Murex* the less definite will be the name. In many cases the writer has not seen a specimen of the species in question and the generic assignments are based entirely on an all too frequently poor illustration. Often these assignments are little more than educated guesses and are by no means definitive. In the early days of Linnaean taxonomy all forms with an anterior canal were given the name *Murex*. Many are now assigned to the Turridae, Fasciolariidae, Melongenidae, Buccinidae, or Cerithiidae and the task of correctly assigning each species is beyond the capabilities of the writer. Unfortunately many early species were not illustrated, or the illustration is so vague that not even a guess can be attempted. Many early species are the types of other genera and, when known, these are cited. Most of the references have been taken from other authors (chiefly Wenz, 1938-1944, Handbuch der Paläozoologie) and have not been verified. For the identity of the Linnaean species the reader is referred to Dodge (1957, Bull. Amer. Mus. Nat. Hist., v. 113, No. 2).

For names that were proposed prior to 1961 no distinction is made between "species," "subspecies," "variety," or "form." All are cited as though they were species. After the bibliographic reference will be noted: "as *x-us* var." if in the original work it was cited as a subspecies or any other designation. Only for species named after 1960 is the distinction kept, for the *International Code of Zoological Nomenclature* now states (Art. 45a): "The species-group, for the purposes of this Code, includes the categories species and subspecies;" and (Art. 45e): "Before 1961, the use of either the terms 'variety' or 'form' is not to be interpreted as an express statement of either subspecific or infraspecific rank. After 1960, a new name published as that of a 'variety' or 'form' is to be regarded as of infraspecific rank."

In almost all cases the original spelling of the species name has been retained. In a few cases where a genuine "lapsus" is evident, for example the name "*brochii*" for Brocchi, then the necessary correction has been made with the notation "[emend.]" immediately after the species name. Although the 1961 Edition of the *Code* stated (Art. 31) that species names formed from modern personal names must terminate in *i* for a man, and *ae* for a woman, in the revised 1964 Edition this was reduced to the rank of a recommendation only. Therefore, it is no longer necessary to emend *pennae* to *pennai,* or *consuela* to *consuelae.* In general, simple spelling errors by subsequent authors have not been catalogued. But in a few cases where the mistake is so bad as to obscure the derivation, or when it is in an important reference work, such as the *Zoological Record*, it has been included.

At the end of this list there is a breakdown by genus-groups of all of the recognized species of Muricinae. Species not referred to the Muricinae are not indexed. In this index the type face is equivalent to the main list, caps representing valid names and italics representing invalid names. Questionable assignments carry a question mark, fossils an asterisk.

In addition to the Muricinae, most of the species presently referred to the subfamily Ocenebrinae were also named as *Murex.* Those that were not so named are included in a separate list.[3] The genera of Ocenebrinae are also indexed separately, but the names therein refer to both the Muricinae catalogue and the Ocenebrinae catalogue; species listed in the Muricinae portion are indicated by "(M)" after the name. The genus-groups recognized in the Ocenebrinae part of this paper differ somewhat from those of the previous Vokes paper (1964, *sup. cit.*). The genera *Vitularia, Eupleura,* and *Urosalpinx* are no longer included. *Homalocantha* and *Purpurellus* are to be found with the Muricinae. Otherwise, as with the Muricinae catalogue, the taxonomy follows Vokes, 1964. The same conventions are also followed in the Ocenebrinae portion as in the Muricinae. In this case all species were named in the genus *Ocenebra* unless otherwise indicated. One exception is that no distinction has been made for the incorrect subsequent spelling *Ocinebra,* under which name some of the species may originally have been described.

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[3] The writer must confess that her search through the literature has not been as diligent for the members of the Ocenebrinae as for the Muricinae, and it is possible that some names proposed in such genera as *Hadriania* or *Ocinebrina* may have been overlooked. It is hoped that they are few in number.

ACKNOWLEDGMENTS

This catalogue represents 15 years work. In that time innumerable people have given assistance of one sort or another. To attempt to list them all would result only in slighting those who were inadvertently overlooked. To all the friends and colleagues who have offered advice on assignments, assistance with references, hospitality in their homes as well as offices, laboratories, libraries, and museums, specimens for examination, and all the other less tangible help, mere words cannot convey the depth of my gratitude and it is only hoped that each one will recognize his part in the finished product.

However, I must single out a few persons, who have given an extra measure of help, for special thanks. First among these would have to be the late Charles Davies Sherborn, whose monumental *Index Animalium* provided the starting point for the catalogue. I must also acknowledge my debt to all of the persons, throughout the years, who have compiled the *Zoological Record* and all the persons in the Interlibrary Loan Department of the Tulane University Library, who labored many hours obtaining obscure references for me. In a more personal way Anthony D'Attilio and George E. Radwin, San Diego Natural History Museum, have been most generous in sharing their knowledge of the muricid radulae with me and thus have helped a great deal in establishing supraspecific relationships. William K. Emerson, American Museum of Natural History, and Myra Keen, Stanford University, have also always given freely of their considerable knowledge concerning the Muricidae. Nell H. Ludbrook, formerly of the Australian Dept. of Mines, now retired, has been most helpful with the Australian Tertiary species. Harald A. Rehder, National Museum of Natural History (Smithsonian); Druid Wilson, U. S. Geological Survey; and Joseph

H. Peck, Museum of Paleontology, Berkeley, provided otherwise unobtainable references. Perhaps the one single person to whom I owe the greatest debt is Rudolf Trümpy, of the Eidg. Technische Hochschule, Geologisches Institut, Zurich, Switzerland, who so generously made available the paleontological collections of that institution, originally assembled by Prof. Charles Mayer (Mayer-Eymar in later years) in the last century. This extensive collection of European fossil muricids comprising some 3600 specimens, which was loaned to me *in toto,* for an indefinite period, proved invaluable in determining the generic placement of the multitude of species described from that area. Finally, I must express my ultimate indebtedness to my husband, Harold E. Vokes, without whom the entire project would have never begun (and who, incidentally, provided almost the entire financial backing for the same) and to Katherine V. W. Palmer, of the Paleontological Research Institution, who browbeat me into the final preparation of a manuscript. I would also like to express my sincere appreciation for the labors of Sofie Baltodano, who had the unpleasant task of typing the final draft.

SUMMARY OF CONVENTIONS EMPLOYED

ALL CAPS — nomenclaturally valid
italics — nomenclaturally invalid
*asterisk — fossil type
= — objective synonym
? = — subjective synonym
?? = — a genuine query; *i.e.,* a possible synonym
[*Genus*] — immediately after species name is genus to which originally referred if other than *Murex* (or *Ocenebra* in part 2)
[emend.] — spelling change by Vokes, not necessarily the first to do so
n.n. pro *x-us* Brown *non* Jones — new name for an invalid species
for *x-us* Smith, 1900, *non* Jones — name for a misidentified species
GENUS — genus-group to which referred by Vokes
FAMILY — Family-group, employed when genus is undeterminable by Vokes

CATALOGUE
PART I. MURICINAE

A

a Costa, 1829, Cat. Test. Sicilie, p. 88; Mediterranean [invalid, Code Art. 11 (g) i]. TURRIDAE

*ABBATIAE Wrigley, 1930, Proc. Malac. Soc. London, v. 19, p. 108, pl. 10, fig. 21; Eocene, England. ? *MUREXSUL*

*ABBREVIATUS DeFrance, 1827, Dict. Sci. Nat., v. 45, p. 547; Pliocene, Italy.

**abbreviatus* Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 100; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 6; Miocene, France.

*ABILUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 273, as *absonus* var. (for Hörnes, 1856, pl. 23, fig. 6); Miocene, Austria. *MUREXIELLA*

*ABITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 250, as [*Purpura*] *lassaignei* var. (for Pereira Da Costa, 1867, pl. 19, fig. 8); Miocene, Portugal. *OCENEBRA*

ABORTIVA [*Triplex*] Perry, 1811, Conchology, pl. 6, fig. 5. *CHICOREUS*

*ABSONUS Cristofori & Jan, 1832, Cat. Mus., Sect. II, Conch. Foss., p. 11; D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, pl. 2, fig. 6; Pliocene, Italy [for *saxatilis* Brocchi, 1814, *non* Linné]. *MUREXIELLA*

ABYSSICOLA Crosse, 1865, Jour. de Conchyl., v. 13, p. 30, pl. 1, figs. 4, 5; West Atlantic. *DERMOMUREX*

ACANTHODES Watson, 1883, Jour. Linn. Soc. London, v. 16, p. 599; 1885, *Challenger* Report, Zool., v. 15, pt. 2, pl. 10, fig. 1; Australia. *MUREX s.s.*

ACANTHOPHORUS [*Phyllonotus*] A. Adams, 1863, Proc. Zool. Soc. London, (1862), p. 372; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex*, fig. 151; Japan. *OCINEBRELLUS*

acanthophorus Monterosato, 1875, Nuova Rivista Conch. Medit., p. 39; Mediterranean [nude name, never subsequently validated; see *erroneus* Monterosato]. *OCINEBRINA*

ACANTHOPTERUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 417, fig. 2; 1822, Anim. s. Vert., v. 7, p 165; Australia. *PTEROCHELUS* (type)

ACANTHOSTEPHES Watson, 1883, Jour. Linn. Soc. London, v. 16, p. 596; 1885, *Challenger* Report, Zool., v. 15, pt. 2, pl. 10, fig. 2; Australia. *MUREX s.s.*

ACCINCTUS Born, 1778, Index Mus. Caes. Vind., p. 317; 1780, Test. Mus. Caes. Vind., p. 314, ref. to Chemnitz, v. 4, figs 1218, 1219; West Atlantic [? = *pusio* Linné]. *PISANIA*

accinctus Montagu, 1808, Test. Brit., Suppl., p. 114; England.

*ACICULATIFORMIS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 143; Oligocene, Germany. *FUSINUS*

ACICULATUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 176; Mediterranean & East Atlantic. *OCINEBRINA* (type—*Corallina* Buc., Dautz., & Doll.)

ACICULIGER Valenciennes, 1846, Voyage *Venus*, pl. 10, fig. 1 [no text publ.]; Gulf of California [? = *monoceros* G. B. Sowerby II]. *CERATOSTOMA*

*ACULEATA [*Rapana*] Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 113, pl. 2, fig. 8; Eocene, Tasmania. *HEXAPLEX*

ACULEATA [*Aranea*] Perry, 1811, Conchology, pl. 46, fig. 2; "African Seas." *MUREX s.s.*

**aculeatus* [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 147; Eocene, (?) Italy. *TYMPANOTONOS*

aculeatus Lamarck, 1822, Anim. s. Vert., v. 7, p. 163; Kiener, 1842, Coq. Viv., v. 7, pl. 39, fig. 3; Japan. *CHICOREUS* *aculeatus* Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 19; East Pacific [see *zeteki* Hertlein & Strong, n.n.; also *dubius* G. B. Sowerby II *non* Dillwyn, n.n.]. *MURICOPSIS*

ACUMINATUS Pennant, 1777, Brit. Zool., ed. 4, v. 4, p. 125, pl. 79; England [? = *turricula* Montagu]. *PROPEBELA*

acuminatus Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 12. ? *LATIRUS*

acuminatus Anton, 1839, Verz. Conch., p. 81. ? *MURICOPSIS*

ACUS Salis, 1793, Reisen Neapel, p. 393, ref. to Chemnitz, v. 4, fig. 1449; Mediterranean. TEREBRIDAE

acuta [*Purpura*] Röding, 1798, Museum Boltenianum, p. 140 [nude name]

*ACUTICOSTA Conrad, 1830, Jour. Acad. Nat. Sci. Phila., v. 6, p. 217, pl. 9, fig. 1; Miocene, Maryland. *TALITYPHIS*

*ACUTICOSTATUS Gümbel, 1861, Geog. Besch. Konig. Bayern, v. 1, p. 754; Oligocene, Germany [? = *conspicuus* Braun]. *OCINEBRINA*

*ACUTICOSTATUS [*Muricopsis*] Staadt *in* Cossmann & Pissaro, 1913, Icon. Compl. Coq. Foss. Éocène Paris, v. 2, Suppl., pl. 65, fig. 169b-7; Paleocene, France. ? *POIRIERIA*

*acuticostatus Wanner & Hahn, 1935, Zeitsch. Deutsch. Geol. Gesell., v. 87, p. 254, pl. 19, figs. 8-10; Miocene, Java. *DERMOMUREX*

adamsi G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* pp. 38, 53, fig. 234 [n.n. pro *inornatus* Adams, *non* Récluz; see *densus* Adams]. *HEXAPLEX*

adamsii Kobelt, 1877, Jahr. Deutsch. Malak. Gesell., v. 4, p. 154 [unnecessary n.n. pro *alabastrum* Adams *non alabaster* Reeve]. *DERMOMUREX*

*ADELAIDENSIS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 99, pl. 2, fig. 4; Eocene, Australia. *PTEROCHELUS*

*ADELLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 256, as *cristatus* Brocchi var.; Pliocene, Italy. *MURICOPSIS*

*ADIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 283, as *plicatus* Brocchi var.; Pliocene, Italy. *ENGINA*

*ADPRESSUS Bronn, 1831, Ital. Tert. Gebild., p. 36; Pliocene, Italy.

ADUNCA [*Bolinus*] Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 166, pl. 5, fig. 51, as *brandaris* var.; Adriatic. *BOLINUS*

ADUNCOSPINOSUS Beck *in* G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 188, fig. 68, as *ternispina* var.; Indo-Pacific. *MUREX s.s.*

aduncospinosus "Dunker" von Martens, 1870, Zool. Rec., v. 6 (1869), p. 537 [err. pro *depressospinosus* Dunker]

ADUNCUS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 62, fig. 35; Japan. *OCINEBRELLUS*

adustus Lamarck, 1822, Anim. s. Vert., v. 7, p. 162; Indo-Pacific [= *brunnea* Link, both for Martini, v. 3, figs. 990, 991]. *CHICOREUS*

ADVERSUS Montagu, 1803, Test. Brit., v. 1, p. 271; Wood, 1818, Index Test., p. 133, pl. 28, fig. 167; England. TRIPHORIDAE

adversus Turton, 1819, Conch. Dict., p. 97; England.

AEDONIUS Watson, 1885, *Challenger* Report, Zool., v. 15, pt. 2, p. 161, pl. 17, fig. 5; South Atlantic. *CORALLIOPHILA*

AFEMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 286, as [*Buccinum*] *dorbignyi* Payraudeau var.; Mediterranean. *ENGINA*

AFER Gmelin, 1791, Syst. Nat., ed. 13, p. 3558, ref. to Adanson, pl. 8, fig. 18; Senegal. *AFER* (type)

AFFINIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3532, ref. to Valentyn, pl. 11, fig. 95; ? South Africa [? = *argus* Gmelin, *i.e., Buccinum pustulosum* Lightfoot]. *ARGOBUCCINUM*

affinis Risso, 1826, Hist. Nat. Europe, v. 4, p. 194; Mediterranean.

*affinis Eichwald, 1830, Naturhist. Lithuaen, p. 224; 1855, Lethaea Rossica, p. 189, pl. 8, fig. 10; Miocene, Central Europe [? = *badensis* Nyst]. TROPHONINAE

affinis Reeve, 1846, Conch. Icon., v. 3, *Murex,* pl. 35, fig. 182; Indo-Pacific [? = *torrefactus* G. B. Sowerby II]. *CHICOREUS*

*AGAPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 284, as *perentus* var. (for Hörnes, 1856, pl. 25, fig. 8); Miocene, Austria. BUCCINIDAE

AGUAYOI Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 15, pl. 8, figs. 1-3; West Atlantic. *SIRATUS*

*AGUILARI Böse, 1910, Jahr. K. K. Geol. Reichsanst., v. 60, p. 233, pl. 12, fig. 11; Miocene, Mexico. *PTEROPURPURA*

*AITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 268, as *brevicanthos* var. (for D'Ancona, 1871, pl. 3, fig. 1); Pliocene, Italy [see *brevicanthos* Sismonda]. *HEXAPLEX*

ALABASTER Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 10, fig. 39; 1846, Proc. Zool. Soc. London, pt. 13, p. 86; Indo-Pacific. *SIRATUS*

ALABASTRUM A. Adams, 1864, Proc. Zool. Soc. London, (1863), p. 508; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex*, fig. 191; West Atlantic. *DERMOMUREX*

*ALAQUAENSIS [*Muricidea?*] Mansfield, 1935, Florida Geol. Sur., Bull. 12, p. 39, pl. 3, fig. 9; pl. 4, fig. 10; Miocene, Florida. *PANAMUREX*

ALATA [*Purpura*] Röding, 1798, Museum Boltenianum, p. 144, ref. to Martini, v. 3, figs. 1036, 1037; Indo-Pacific. [The type of *Purpura* Röding has been designated as *Murex trunculus* Linné, making it synonym of *Hexaplex* or *Trunculariopsis*. Only in the sense of *Murex s.l.* can this species be said to be preoccupied by *Murex alatus* Gmelin. This is unfortunate for the Martini figures cited are also *Murex pinnatus* Swainson, 1822.] *PTERYNOTUS* (type, as *pinnatus* Swainson)

ALATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3562, ref. to Chemnitz, v. 4, figs. 1503, 1504. TURRIDAE

alatus Fischer de Waldheim, 1807, Mus. Demidoff, v. 3, p. 195. ? *PTERYNOTUS*

**alatus* Eichwald, 1830, Naturhist. Lithauen, p. 224; 1855, Lethaea Rossica, p. 193, pl. 8, fig. 12; Miocene, Central Europe [? = *vaginatus* Cristofori & Jan]. *PAGODULA*

alatus G. B. Sowerby II, 1834, Conch. Illus., *Murex*, pl. 65, fig. 51; Australia [= *triformis* Reeve]. *PTEROCHELUS*

**alatus* Boll, 1846, Geognosie Deutschen Osteeländer, p. 170.

ALBA Scacchi, 1836, Cat. Conch. Regni Neapolitani, p. 11 [footnote] as *craticulatus* Linné var.; Mediterranean. ? *LATIRUS*

alba Berry, 1908, Nautilus, v. 21, p. 105, as *carpenteri* var.; California [? = *tremperi* Hemphill *in* Dall]. *PTEROPURPURA*

ALBELLUS Gravenhorst, 1807, Vergl. Uebers. Zool. Syst., p. 32.

*ALBERTII Michelotti, 1841, Monografia *Murex*, p. 25, pl. 5, figs. 11, 12; Miocene, Italy. ? BUCCINIDAE

ALBICANS Anton, 1839, Verz. Conch., p. 82.

albicans Tryon, 1880, Man. Conch., v. 2, p. 102, as *endivia* var.; Indo-Pacific. *HEXAPLEX*

albina Pallary, 1938, Jour. de Conchyl., v. 82, p. 26, as *brandaris* var.; Mediterranean [nude name unless described elsewhere, not found]. *BOLINUS*

*ALBIONIS Wrigley, 1930, Proc. Malac. Soc. London, v. 19, p. 106, pl. 10, fig. 27; Eocene, England. ? *POIRIERIA*

ALBISSIMUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 116.

ALBOANGULATUS E. A. Smith, 1891, Proc. Zool. Soc. London, (1890), p. 259, pl. 21, fig. 7; South Atlantic. ? *CORALLIOPHILA*

*ALCUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 262, as *trunculus* var. (for Bellardi, 1872, pl. 6, fig. 12); Miocene, Italy. *HEXAPLEX*

*ALDRICHI [*Muricopsis*] Cossmann, 1903, Essais Paléoconch. Comp. v. 5, p. 34; Eocene, Mississippi [n.n. pro *cancellaroides* Meyer & Aldrich *non* Grateloup]. *TIMOTHIA* (type)

*ALDRICHI Gardner, 1947, U. S. Geol. Sur., Prof. Paper 142-H, p. 521, pl. 53, fig. 11; Miocene, Florida. *PHYLLONOTUS*

ALFREDENSIS Bartsch, 1915, U. S. Nat. Mus., Bull. 91, p. 59, pl. 37, fig. 6; South Africa. *DERMOMUREX*

ALOCATUS Robillard, 1873, Trans. Roy. Soc. Arts Sci. Mauritius, v. 7, p. 13, 14; Mauritius [*fide* von Martens, 1880, not seen; ? = *barclayanus* H. Adams]. ? *PTERYNOTUS*

ALPAUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 253, as [*Purpura*] *edwardsi* var.; Mediterranean. *OCINEBRINA*

*ALPICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 259, as *trunculus* var.; Pliocene, Italy. *HEXAPLEX*

*ALTA [*Ocinebra*] Dall, 1890, Trans. Wagner Free Inst. Sci., v. 3, pt. 1, p. 150, as *intermedius* Adams var.; Pliocene, Florida. *FAVARTIA*

*ALTAVILLAE Libassi, 1859, Atti Accad. Sci. Lett. Palermo, (n. s.) v. 3, p. 40, fig. 17; Pliocene, Italy [? = *heptagonatus* Bronn]. *HOMALOCANTHA*

*ALTAVILLENSIS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 228, as *brandaris* var.; Pliocene, Italy. *BOLINUS*

*ALTENAI Cox, 1948, Schweizer. Palaeont. Abh., v. 66, p. 46, pl. 4, fig. 2; Neogene, North Borneo. *CHICOREUS*

*ALTERNATA Lea, 1833, Cont. to Geol., p. 157, pl. 5, fig. 163; Eocene, Alabama [? = *Typhis gracilis* Conrad]. *LAEVITYPHIS*

**alternatus* Millet, 1866, Paléont. Maine et Loire, p. 16; Miocene, France.

**alternatus* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 121, pl. 8, fig. 8; Miocene, Italy. ? *CORALLIOPHILA*

*ALTERNICOSTA Michelotti, 1841, Monografia *Murex,* p. 19, pl. 5, figs. 4, 5; Miocene, Italy. ? *OCENEBRA*

*ALUCASTER Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 438, pl. 10, fig. 4; ? Pliocene, Italy. *CERITHIUM*

ALUCHENSIS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 61; Adriatic. *CERITHIUM*

*ALUCIFORMIS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 150; Triassic, Germany. CERITHIACEA

ALUCO Linné, 1758, Syst. Nat., ed. 10, p. 755; Indo-Pacific. *PSEUDOVERTAGUS* (type)

ALUCOIDES Olivi, 1792, Zool. Adriat., p. 153; Adriatic. *CERITHIUM.*

alucoides Blainville, 1829, Faune Française, p. 128, pl. 5B, fig. 1; Mediterranean. *FUSOMUREX* (type)

ALUTACEUS Menke, 1829, Verzeich. Conch. Samml., p. 41; Indo-Pacific [? = *miliaris* Gmelin]. *VITULARIA*

ALVEATUS Kiener, 1842, Coq. Viv., v. 7, p. 94, pl. 46, fig. 2; ? West Atlantic [issued in parts, *Murex* plates with species names thereon appeared in 1842, *Murex* text in 1843 (see Sherborn & Woodward, 1901, Proc. Malac. Soc. London, v. 4, p. 217)]. *CARIBIELLA*

*ALVEOLATUS J. de C. Sowerby, 1823, Mineral Conch., v. 5, p. 9, pl. 411, fig. 2; Pliocene, England. *NUCELLA*

**alveolatus* Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 108, pl. 3, fig. 12; Miocene, Australia [see *graniformis* Harris, n. n.; also *subalveolatus* Cossmann, n. n.]. *FUSOMUREX*

AMANUENSIS Couturier, 1907, Jour. de Conchyl., v. 55, p. 142, as *triqueter* var.; Tahiti. *NAQUETIA*

*AMBERNUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 271 (for Hörnes, 1856, pl. 23, fig. 1); Miocene, Austria [? = *austriacus* Tournouër; also *hoernesi* D'Ancona *non* Speyer]. *HEXAPLEX*

AMBIGUUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 13, fig. 51; 1846, Proc. Zool. Soc. London, pt. 13, p. 86; West Mexico. *HEXAPLEX*

**ambiguus* Michelotti, 1861, Nat. Verh. Hollandsche Maat. Wetensch. Haarlem, (ser. 2) v. 15, No. 2, p. 120, pl. 13, fig. 22; Miocene, Italy. ? *OCENEBRA*

**ambiguus* Matheron, 1878, Rech. Paléont. Midi France, pt. 7, livrs. 3, 4, p. 56, pl. G-12, fig. 6; Cretaceous, France.

*AMBLYCERAS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 101, pl. 2, fig. 12; Miocene, Australia. *CHICOREUS*

**amblyconus* "Tate" Cossmann, 1903, Essais Paléoconch. Comp., v. 5, pp. 23, 206 [err. pro *amblyceras* Tate]

AMERICANUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 110; "Nordamerika."

AMIRRUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 236, as *erinaceus* var. (for Born, 1780, pl. 11, fig. 3; Lamarck, 1816, pl. 421, fig. 1); Mediterranean. *OCENEBRA*

AMITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 284. *ENGINA*

*AMOENUS Fuchs, 1870, Denkschr. K. Akad. Wissen. Wien, v. 30, p. 192, pl. 9, figs. 5, 6; Eocene, Italy. *HEXAPLEX*

*AMPHORA Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 311, pl. 1, fig. 10; Pliocene, Italy.

*AMPISTUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 276 (for Hörnes, 1856, pl. 25, fig. 11); Miocene, Austria [? = *bellardii* Seguenza]. *PURPURELLUS*

AMPLUSTRE Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 735, ref. to Chemnitz, v. 11, figs. 1841, 1842; Indo-Pacific. *LATIRUS*

*AMPURMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 266, as *pecchiolanus* var.; Pliocene, Italy. *HEXAPLEX*

AMPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 255, as *cristatus* Brocchi var.; Mediterranean. *MURICOPSIS*

ANANUS Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 127; West Africa [? = *rosarium* Röding]. *HEXAPLEX*

ANATOMICA [*Hexaplex*] Perry, 1811, Conchology, pl. 8, fig. 2; Indo-Pacific. *HOMALOCANTHA*

ANCEPS [*Ranella*] Lamarck, 1822, Anim. s. Vert., v. 7, p. 154; Kiener, 1841, Coq. Viv., v. 7, pl. 4, fig. 2; Indo-Pacific. *ASPELLA* (type)

*ANCONAE Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 117, pl. 8, fig. 2; Miocene, Italy. ? *ENGINELLA*

*ANDINUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 236, as *erinaceus* var. (for Bronn, 1838, pl. 41, fig. 23); Neogene, Italy. *OCENEBRA*

ANGASI [*Typhis*] Crosse, 1863, Jour. de Conchyl., v. 11, p. 86, pl. 1, fig. 2; Australia. *PTEROCHELUS*

ANGASI Tryon, 1880, Man. Conch., v. 2, p. 109; Australia [n.n. pro *scalaris* Adams *non* Brocchi; ? = *umbilicatus* Tenison-Woods]. ? *MUREXSUL*

*ANGELUS Aldrich, 1886, Jour. Cincinnati Soc. Nat. Hist., v. 8, p. 145, pl. 2, fig. 2; Oligocene, Mississippi. *PTEROCHELUS*

ANGERMEYERAE [*Aspella*] Emerson & D'Attilio, 1965, Nautilus, v. 79, p. 59, pl. 1, figs. 1-5; Galápagos. *MAXWELLIA*

ANGISTOMA Küster, 1869, Conchyl.-Cab., ed. 2, v. 3, No. 2, p. 88, pl. 31, fig. 7. *FAVARTIA*

ANGOLENSIS [*Ocinebra*] Odhner, 1922, Göteborg Kungl. Vet. Vitterhets Samhalles Handl., (ser. 4) v. 26, No. 7, p. 13, pl. 1, figs. 8-10; West Africa. *MURICOPSIS*

ANGULARIS Lamarck, 1822, Anim. s. Vert., v. 7, p. 174, ref. to Adanson, pl. 9, fig. 22; Kiener, 1842, Coq. Viv., v. 7, pl. 16, fig. 2; West Africa. *HEXAPLEX*

*ANGULATUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 24, pl. 3, fig. 46; Eocene, England. *PYRAZUS*

angulatus Donovan, 1804, Brit. Shells, v. 5, pl. 156; East Atlantic [? = *turricula* Montagu]. *PROPEBELA*

angulatus Risso, 1826, Hist. Nat. Europe, v. 4, p. 194; Mediterranean.

**angulatus* Woodward, 1833, Geology of Norfolk, p. 45, pl. 3, fig. 23; Pleistocene, England. [? = *Buccinum lapillus* Linné]. *NUCELLA*

**angulatus* Meyer, 1886, Alabama Geol. Sur., Bull. 1, pt. 2, p. 74, pl. 2, fig. 18; Eocene, Mississippi [?? = *silvaticus* Palmer]. *HEXAPLEX*

anguliferus Lamarck, 1822, Anim. s. Vert., v. 7, p. 171; Red Sea [= *virgineus* Röding, both for Martini, v. 3, figs. 1029, 1030]. *CHICOREUS*

*ANGULOSUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 411, pl. 7, fig. 16; Neogene, Italy. *JANIOPSIS* (type)

*ANGUSTEVARICATUS Gripp, 1912, Jahrb. Wiss. Anst. Hamburg, v. 29, p. 22, fig. 4; Oligocene, Germany. _PAGODULA_

ANGUSTUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3556, ref. to Valentyn, pl. 1, fig. 6 [? = _lancea_ Gmelin]. _DOLICHOLATIRUS_

*_angustus_ Edwards _in_ Newton, 1891, Edwards Coll. Brit. Olig. Eocene Mollusca, p. 146; Eocene, England [nude name, = _albionis_ Wrigley]. ? _POIRIERIA_

ANNANDALEI [_Pteronotus_] Preston, 1910, Rec. Indian Mus., v. 5, pt. 2, No. 2, p. 118, fig. 3; Indian Ocean. _NAQUETIA_

*ANNIAE M. Smith, 1940, Nautilus, v. 54, p. 44, pl. 2, fig. 1; Pleistocene, Florida. _MUREX s.s._

ANNULARIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3561, ref. to Chemnitz, v. 4, fig. 1486; Indo-Pacific [? = _torulosa_ Linné]. _TIARACERITHIUM_

ANONYMUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 108.

ANSATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3556, ref. to Chemnitz, v. 4, fig. 1340. _FUSINUS_

*ANSUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 281, as _plicatus_ Brocchi var. (for D'Ancona, 1871, pl. 6, fig. 3); Pliocene, Italy. _ENGINA_

*ANTECEDENS [_Homalocantha_] Ludbrook, 1958, Trans. Roy. Soc. So. Aust., v. 81, p. 58, pl. 2, fig. 18; Pliocene, Australia. _HOMALOCANTHA_

ANTELMEI Vaider, 1938, Bull. Mauritius Inst., v. 1, No. 3, p. 6, pl. 1, figs. 8, 9; Mauritius. _MUREX s.s._

ANTILLARUM Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 126; G. B. Sowerby II, 1879, Thes. Conch., v. 4, _Murex,_ fig. 209; West Atlantic [? = _formosus_ G. B. Sowerby II]. _SIRATUS_

*_antillarum_ Gabb, 1873, Trans. Amer. Phil. Soc., (n.s.) v. 15, p. 202; Miocene, Dominican Republic [see _yaquensis_ Maury, n.n]. _SIRATUS_

ANTIQUUS Linné, 1758, Syst. Nat., ed. 10, p. 754; North Sea. _NEPTUNEA_ (type)

ANUS Linné, 1758, Syst. Nat., ed. 10, p. 750; Indo-Pacific. _DISTORSIO_ (type)

*APISMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 235, as _polymorphus_ var. (for D'Ancona, 1871, pl. 7, fig. 8); Pliocene, Italy. _OCENEBRA_

aplustre Wood, 1818, Index Test., p. 129, pl. 27, fig. 111; Indo-Pacific [= _amplustre_ Dillwyn, both for Chemnitz, v. 11, figs. 1841, 1842]. _LATIRUS_

APPROXIMATUS G. B. Sowerby II, 1879, Thes. Conch., v. 4, _Murex,_ p. 13, fig. 62; West Atlantic [? = _brevifrons_ Lamarck]. _CHICOREUS_

*AQUITANICUS Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 94; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 12; Miocene, France. _CHICOREUS_

*_aquitaniensis_ Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine _in_ Actes Soc. Linn. Bordeaux, v. 75, p. 122, pl. 18, fig. 14; Miocene, France [unjustified emendation pro _aquitanicus_ Grateloup]. _CHICOREUS_

ARABICUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 104; Red Sea.

ARADASII Monterosato _in_ Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, p. 123; Mediterranean [n.n. pro _diadema_ Aradas & Benoit _non_ Adams]. _CORALLIOPHILA_

aranea Blainville _in_ Kiener, 1842, Coq. Viv., v. 7, p. 34, pl. 36, fig. 1; Australia [said by Kiener to = _monodon_ G. B. Sowerby I which = _cornucervi_ Röding, both for Martini, v. 3, figs. 987, 988; see note after _alveatus_ Kiener]. _CHICOREUS_

*ARATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 64, pl. 4, fig. 14; Miocene, Italy. _CHICOREUS_

*ARDJUNOI Beets, 1941, Verh. Geol. Minj. Nederland Koloniën, (Geol.), v. 13, p. 93, pl. 5, figs. 201-204; Miocene, Borneo. _HEXAPLEX_

*ARDOCUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 251, as _multicostatus_ Pecchioli var. (for D'Ancona, 1871, pl. 7, fig. 1); Pliocene, Italy. _MUREXSUL_

*ARENARIA Steuer, 1912, Abh. Geol. Land. Darmstadt, v. 6, p. 21, pl. 2, figs. 6-9, as *sandbergeri* von Koenen var.; Oligocene, Germany. *PTERYNOTUS*

arenarius Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 34, pl. 19, figs. 1-3, as *florifer* var.; Gulf of Mexico [? = *dilectus* Adams]. *CHICOREUS*

ARENOSUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3558, ref. to Spengler, pl. 2, fig. 8; India.

*AREOLIFER Sandberger, 1863, Conchyl. Mainzer Tertiärbeckens, p. 214, pl. 18, fig. 7; Oligocene, Germany [? = *pereger* Beyrich]. *MURICOPSIS*

*ARGEBUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 270, as *brevicanthos* var.; Pliocene, Italy. *HEXAPLEX*

*ARGILLACEUS Wrigley, 1930, Proc. Malac. Soc. London, v. 19, p. 107, pl. 10, figs. 16, 17; Eocene, England. *PAZIELLA*

arginna "Mörch" Kobelt, 1877, Jahr. Deutsch. Malak. Gesell., v. 4, p. 149 [err. pro *argyna* Mörch]

ARGISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 260, as *trunculus* var.; Mediterranean. *HEXAPLEX*

ARGO Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 31, pl. 17; West Atlantic [n. n. pro *imbricatus* Higgins & Marrat *non* Brocchi; ? = *spectrum* Reeve]. *CHICOREUS*

argus Gmelin, 1791, Syst. Nat., ed. 13, p. 3547; South Africa [= *Buccinum pustulosum* Lightfoot, both for Rumphius, pl. 48, fig. B; Terry has appealed to the ICZN to suppress the older name as a *nomen oblitum* (1968, Bull. Zool. Nomen., v. 25, p. 714)]. *ARGOBUCCINUM* (type)

*ARGUTUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 12, pl. 1, fig. 13; Eocene, England. *SASSIA*

argyna Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 97; Indo-Pacific [= *rosaria* Perry; also *palmarosae* Lamarck]. *CHICOREUS*

*ARIESENSIS Fontannes, 1879 [1880], Moll. Pliocènes Rhone et Roussillon, v. 1, p. 269 [errata], pl. 1, figs. 6-8, as *lassaignei* var.; Pliocene, France. *OCENEBRA*

**ariesiana* Fontannes, 1879, Moll. Pliocènes Rhone et Roussillon, v. 1, p. 7, as *lassaignei* var.; Pliocene, France [see *ariesensis,* justified emendation; see Code Art. 32(a)i & 33(a)ii]. *OCENEBRA*

*ARIETINUS Millet, 1866, Paléont. Maine et Loire, p. 17; Miocene, France.

ARIOMUS Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 39, pl. 20, figs. 5, 6; West Atlantic. *PTEROCHELUS*

*ARIPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 239, as *bracteatus* var.; Neogene, Italy. *PSEUDOMUREX*

*ARLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 256, as *scalaroides* var.; Pliocene, Italy. *DERMOMUREX*

armata [Lightfoot], 1786, Cat. Portland Mus., p. 57 [nude name]

ARMATUS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 71; Keen, 1958, Sea Shells Tropical West America, p. 362, fig. 367 (holotype); Gulf of California. *MURICOPSIS*

**armatus* Geinitz, 1875, Palaeontographica, v. 20, p. 263, pl. 59, fig. 16; Cretaceous, Germany. *PAZIELLA*

ARMIGERUS Fischer de Waldheim, 1807, Mus. Demidoff, v. 3, p. 199, ref. to Chemnitz, v. 11, figs. 1798, 1799; Indo-Pacific [*Mancinella armigera* Link, 1807, may be the older name; *Purpura armigera* Lamarck, 1822, is the same species]. *THAIS*

*ARNAUDI Fischer & Tournouër *in* Gaudry, 1873, Anim. Foss. Mont Léberon, p. 119, pl. 16, figs. 3, 4; Miocene, France. *OCINEBRINA*

*ARNTZENII [*Muricopsis*] Martin, 1931, Wetenschap. Mededeelingen, No. 18, p. 29, pl. 4, fig. 13; Eocene, Java. ? BUCCINIDAE

*ARNUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 247, as *fusulus* var.; Pliocene, Italy. *ORANIA*

ARPELLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 263, as *trunculus* var.; Mediterranean. *HEXAPLEX*

*ARRAKANENSIS Noetling, 1898, Mem. Geol. Sur. India, v. 27, p. 36, pl. 8, fig. 6; Miocene, Burma. *PTEROPURPURA*

*ARSIS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 266, as *trunculus* var.; Pliocene, Italy. *HEXAPLEX*

ARTICULATUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* expl. to pl. 22 (for G. B. Sowerby II, 1841, *Murex,* pl. 189, fig. 69); West Atlantic. *SIRATUS*

ARUANUS Linné, 1758, Syst. Nat., ed. 10, p. 753; Australia [*Fusus proboscidiferus* Lamarck is the same species]. *MEGALATRACTUS* (type) [The generic name *SYRINX* Röding, 1798, has been used for this species but it is preoccupied by *Syrinx* Bohadsch, 1761 (Vermes).]

*ASANOI [*Chicoreus*] Masuda, 1956, Trans. Proc. Palaeont. Soc. Japan, (n.s.) No. 21, p. 163, pl. 26, figs. 10, 11; Miocene, Japan. ? *OCENEBRA*

*ASGORUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 237, as *orgellus* var. (for Hörnes, 1856, pl. 25, fig. 16); Miocene, Austria. *OCENEBRA*

*ASHIYAENSIS [*Ocinebra*] Nagao, 1928, Sci. Rept. Tohoku Imp. Univ., Sendai, Japan, v. 12, No. 1, p. 113, pl. 16, figs. 33-37; Paleogene, Japan. ? *HEXAPLEX*

ASIANUS [*Chicoreus*] Kuroda, 1942, Venus, v. 12, p. 80; Japan [n.n. pro *elongatus* Lamarck *non* Lightfoot; also *sinensis* Reeve *non* Gmelin]. *CHICOREUS*

*ASIPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 237, as *orgellus* var. (for Hörnes, 1856, pl. 25, fig. 15); Miocene, Austria. *OCENEBRA*

ASPER Linné, 1758, Syst. Nat., ed. 10, p. 756; Indo-Pacific. *RHINOCLAVIS*

**asper* Solander *in* Brander, 1766, Foss. Hantoniensia, p. 35, pl. 3, figs. 77-80; Eocene, England [see *crenulata* Röding, ? n.n.; also *tricarinatus* Lamarck]. *PTERYNOTUS*

asper Gmelin, 1791, Syst. Nat., ed. 13, p. 3543, ref. to Chemnitz, v. 4, figs. 1396, 1397 [see *dubius* Dillwyn, n.n.]. ? *CANTHARUS*

**asper* Risso, 1826, Hist. Nat. Europe, v. 4, p. 200; ? Pliocene, Italy.

**asper* Millet, 1866, Paléont. Maine et Loire, p. 17; Miocene, France.

ASPER [*Rhizochilus*] A. Adams, 1855, Proc. Zool. Soc. London, (1854), p. 137; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 244; Gulf of California [juvenile of *radix-nigritus* group]. *HEXAPLEX*

ASPERA [*Truncularia*] Monterosato *in* Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 167, pl. 6, fig. 55, as *trunculus* var.; Adriatic. *HEXAPLEX*

ASPERRIMUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3559, ref. to Kaemmerer, pl. 9, fig. 7. ? CERITHIACEA

asperrimus Lamarck, 1822, Anim. s. Vert., v. 7, p. 164; West Atlantic [= *pomum* Gmelin, both for Martini, v. 3, figs. 1021-1023]. *PHYLLONOTUS*

asperrimus Costa, 1850, Atti Accad. Pontaniana, v. 5, fasc. 5, p. 390, pl. 12, figs. 9, 10. TURRIDAE

*ASPERULUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 106, pl. 3, fig. 1; Miocene, Australia. *BEDEVA*

*ASPINATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 18, pl. 4, fig. 23, as *spinicosta* Bronn var.; Pliocene, Italy. *MUREX s.s.*

*ASPINOSUS Meyer, 1866, Alabama Geol. Sur., Bull. 1, pt. 2, p. 74, pl. 2, fig. 21, as *simplex* Aldrich var.; Oligocene, Mississippi. *MURICOPSIS*

ASPIRTUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 258, as *trunculus* var.; Mediterranean. *HEXAPLEX*

*ASSIMILIS [*Muricites*] Schlotheim, 1813, Taschenb. Min., (1813), p. 92, ref. to Bourget, pl. 34, fig. 228; Cretaceous, Switzerland. ? *PALADMETE*

**assimilis* Cristofori & Jan, 1832, Cat. Mus., Sect. II, Conch. Foss., p. 11, as *brandaris* var.; Pliocene, Italy. *BOLINUS*

*ASTECUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 282, as *plicatus* Brocchi var. (for Bellardi, 1872, pl. 12, fig. 3); Pliocene, Italy. *ENGINA*

*ASTENSIS Bellardi & Michelotti, 1841, Mem. R. Accad. Sci. Torino, (ser. 2) v. 3, p. 167, pl. 3, figs. 18, 19 [as separate: Saggio Orittografico Terr. Terz. Piemonte, ? 1840, p. 75]; Miocene, Italy [? = *heptagonatus* Bronn]. *HOMALOCANTHA*

*ASTERISCUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 102, pl. 2, fig. 10; Miocene, Australia. *TAKIA*

*ASTROGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 267, as *trunculus* var. (for Hörnes, 1856, pl. 22, fig. 2); Miocene, Italy [? = *aquitanicus* Grateloup]. *CHICOREUS*

ATERRIMA Dautzenberg, 1890, Mém. Soc. Zool. France, v. 3, p. 166, as *blainvillei* var.; East Atlantic. *MURICOPSIS*

*ATHENASI Vasseur *in* Cossmann, 1897, Moll. Eócén. Loire-Infer., v. 1, fasc. 3, *in* Bull. Soc. Sci. Nat. Ouest France, Nantes, v. 7, p. 322 (136), pl. 6 (11), figs. 36, 37; Eocene, France. *PTERYNOTUS*

ATLANTIS Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 41, pl. 21, figs. 3-5; West Atlantic. *PAZIELLA* (type—*Bathymurex* Clench & Pérez Farfante)

atra Monterosato, 1878, Enum. e Sinon., p. 40, as *blainvillei* var.; Mediterranean [nude name, never subsequently validated]. *MURICOPSIS*

ATRATUS Born, 1778, Index Mus. Caes. Vind., p. 329; 1780, Test. Mus. Caes. Vind., pl. 11, figs. 17, 18. CERITHIIDAE

*ATTENUATA [*Muricidea*] Dall, 1890, Trans. Wagner Free Inst. Sci., v. 3, pt. 1, p. 149, as [*Urosalpinx*] *floridana* Conrad var.; Pliocene, Florida. *CALOTROPHON*

ATTENUATUS Montagu, 1803, Test. Brit., v. 1, p. 266, pl. 9, fig. 6; Mediterranean. *MANGELIA* (type)

*ATTONANS Boettger, 1906, Vehr. Mitt. Siebend. Ver. Naturw. Hermannstadt, v. 54, p. 43; Zilch, 1934, Senckenbergiana, v. 16, pl. 15, fig. 80 (lectotype); Miocene, Romania. *PAZINOTUS*

*ATURENSIS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 134, pl. 15, figs. 15, 16; Miocene, France. *PAZIELLA*

*ATURI Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 330; Miocene, France [for *calcitrapoides* Grateloup, 1847, pl. 31, fig. 16, *non* Lamarck]. *PAZIELLA*

*ATUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 247, as *fusulus* var.; Miocene, Italy. *ORANIA*

AURANTIA Perry, 1811, Conchology, pl. 1, fig. 1; Indo-Pacific [? = *gibbulus* Gmelin]. *LATIRUS*

aurantius Anton, 1839, Verz. Conch., p. 82.

*AURICULATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 148; Eocene, Italy. CERITHIACEA

australasiae Röding, 1798, Museum Boltenianum, p. 113 [in synonymy of *Buccinum lamellosum*]

AUSTRALIENSIS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 72; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 58; Australia [? = *brunnea* Link]. *CHICOREUS*

AUSTRALIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3542, ref. to Spengler, v. 17, pl. 2, figs. c, d. ? *STRUTHIOLARIA*

australis Quoy & Gaimard, 1833, Voyage *Astrolabe,* Zool., v. 2, p. 536; Australia [? = *denudata* Perry]. *CHICOREUS*

*AUSTRIACUS Tournouër, 1875, Jour. de Conchyl., v. 23, p. 158; Miocene, Austria [for *sedgwicki* Hörnes, 1856, pl. 23, figs. 1-5, *non* Michelotti]. *HEXAPLEX*

**austriacus* Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, p. 212; Miocene, Austria [for *genei* Hörnes, 1856, pl. 24, figs. 6, 7, *non* Bellardi & Michelotti]. *CERATOSTOMA*

*AUVERSIENSIS Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 322, pl. 87, figs. 13-15; Eocene, France. ? *MUREXSUL*

*AWAMOANUS [*Pteronotus*] Finlay, 1930, Trans. New Zealand Inst., v. 61, p. 77, pl. 1, fig. 9; Miocene, New Zealand. *PTEROCHELUS*

AXICORNIS Lamarck, 1822, Anim. s. Vert., v. 7, p. 163; Kiener, 1842, Coq. Viv., v. 7, pl. 42, fig. 2; Indo-Pacific. *CHICOREUS*

*AXIPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 237, as *orgellus* var. (for D'Ancona, 1871, pl. 3, fig. 4); Pliocene, Italy. *OCENEBRA*

AZAMI Kuroda, 1929, Venus, v. 1, p. 91 [Japanese], 95 [English], pl. 3, fig. 13; Japan. ? *MUREXIELLA*

B

BABINGTONI G. B. Sowerby III, 1892, Marine Shells So. Africa, p. 2, pl. 1, fig. 1; South Africa. *UROSALPINX*

BABYLONIUS Linné, 1758, Syst. Nat., ed. 10, p. 753; Indo-Pacific [variously spelled *babylonus, babylonicus, babylonica* (after Röding) by authors]. *TURRIS* (type)

bactreatus "Brocchi" Jousseaume, 1880, Le Naturaliste, Année 2, No. 42, p. 335 [err. pro *bracteatus* Brocchi]

*BADENSIS Nyst, 1881, Ann. Mus. Roy. Hist. Nat. Belg., Sér. Paléont., v. 3, p. 4; Miocene, Austria [for *tortuosus* Hörnes, 1856, pl. 25, fig. 5, *non* J. de C. Sowerby]. TROPHONINAE

**badensis* Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterranean-stufe, p. 217, pl. 26, figs. 13, 14, as [*Fusus*] *caelatus* var.; Miocene, Austria. *OCINEBRINA*

BADIUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 32, fig. 159. *OCINEBRINA*

BAETICUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 32, fig. 162. *OCINEBRINA*

BAKERI [*Aspella*] Hertlein & Strong, 1951, Bull. So. Calif. Acad. Sci., v. 50, p. 79, pl. 26, figs. 1, 2; Gulf of California. *GRACILIMUREX* (type, as *bicolor* Thiele)

BALDWINIANA Pilsbry, 1921, Proc. Acad. Nat. Sci. Phila., v. 72, p. 373, as *cyclostoma* var.; Hawaii. *FAVARTIA*

BALTEATUS Beck *in* G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 191, fig. 83; 1841, Proc. Zool. Soc. London, pt. 8, p. 146; Indo-Pacific. *MUREXIELLA*

BAMFFIUS Donovan, 1804, Brit. Shells, v. 5, pl. 169, fig. 1; North Sea. *TROPHON*

BANDARIUS Perry, 1811, Conchology, pl. 1, fig. 5 [? = *morio* Linné]. *PUGILINA*

BANDATUS Perry, 1811, Conchology, pl. 1, fig. 4 [? = *morio* Linné]. *PUGILINA*

BANKSII G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 191, fig. 82; 1841, Proc. Zool. Soc. London, pt. 8, p. 140; Indo-Pacific. *CHICOREUS*

*BANTAMENSIS Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n. s.) v. 1, pt. 5, p. 126, pl. 19, figs. 288-290; Mio-Pliocene, Java. *MUREX s.s.*

*BARATTUS de Gregorio, 1895, Ann. Géol. Paléont., livr. 20, p. 10, pl. 1, fig. 14; Eocene, Italy. *PTERYNOTUS*

BARBARENSIS Gabb, 1865, Proc. Calif. Acad. Sci., v. 3, p. 183; Dall, 1921, U. S. Nat. Mus., Bull. 112, pl. 6, fig. 5; California. *OCENEBRA*

*BARCINONENSIS Almera & Bofill, 1893, Bol. Com. Mapa Geol. España, v. 19, p. 82, pl. 6, figs. 42, 43; as *polymorphus* var.; Miocene, Spain. *OCENEBRA*

BARCLAYANUS [*Coralliophila*] H. Adams, 1874, Proc. Zool. Soc. London, (1873), p. 205, pl. 23, fig. 1; Mauritius [? = *lienardi* Crosse]. ? *PTERYNOTUS*

BARCLAYI Reeve, 1858, Proc. Zool. Soc. London, pt. 25, p. 209, pl. 38, fig. 2; Mauritius. _NAQUETIA_

*_barrandei_ Hörnes, 1848, Verz. Fossil-reste Wien, p. 18, _in_ Czjzek, 1849, Erläut. Geog. Karte [nude name, = _intercisus_ Michelotti, _fide_ Hörnes, 1853]. ? _CANTHARUS_

*BARTONENSIS J. Sowerby, 1813, Mineral Conch., v. 1, p. 77, pl. 34; Eocene, England. _DIENTOMOCHILUS_

*_bartonensis_ Edwards _in_ Newton, 1891, Edwards Coll. Brit. Olig. Eocene Mollusca, p. 146; Eocene, England [nude name, ? = _subrudis_ d'Orbigny]. _MUREXIELLA_

*BASICINCTUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 99, pl. 2, fig. 9; Miocene, Australia. _CHICOREUS_

*BASTEROTI Benoist, 1880, Actes Soc. Linn. Bordeaux, v. 34, p. 163, pl. 9, figs. 3, 4; Miocene, France. _OCINEBRINA_

*BATAVIANUS Martin, 1884, Samml. Geol. Reichsmus. Leiden, v. 3, p. 97, pl. 6, fig. 99; Mio-Pliocene, Java. _CHICOREUS_

*BAUDONI Morlet, 1888, Jour. de Conchyl., v. 36, p. 211, pl. 10, fig. 1; Eocene, France. ? _OCINEBRINA_

*BEALI Anderson & Hanna, 1925, Occ. Papers Calif. Acad. Sci., v. 11, p. 50, pl. 13, fig. 16; Eocene, California [? = _whitneyi_ Gabb]. ? _HEXAPLEX_

BEAUII Fischer & Bernardi, 1857, Jour. de Conchyl., v. 5, p. 295, pl. 8, fig. 1; West Atlantic. _SIRATUS_

*BEAUMONTII Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], fig. 3; Miocene, France. _OCENEBRA_

*BECKI Michelotti, 1847, Nat. Verh. Hollandsche Maat. Wetensch. Haarlem, (ser. 2) v. 3, p. 242, pl. 11, fig. 10; Pliocene, Italy [n. n. pro _elegans_ Michelotti _non_ Beck _in_ G. B. Sowerby II]. _CORALLIOPHILA_

BECKII Philippi, 1847, Abbildungen Besch. Conchylien, v. 3, pt. 2, _Murex,_ pl. 2, fig. 1 [it is not known which _becki_ is the older taxon]. _HEXAPLEX_

BEDNALLI Brazier, 1878, Proc. Linn. Soc. New South Wales, v. 2, p. 6; Angas, 1881, Proc. Zool. Soc. London, (1880), pl. 40, fig. 2; Australia. _PTERYNOTUS_

BELCHERI Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 128; 1844, Voyage _Sulphur,_ Zool., Moll., pl. 2, figs. 1-3; California. _FORRERIA_ (type)

*BELLARDII Seguenza, 1881, Atti Accad. Lincei, Mem. Class. Sci. Fis., (ser. 3) v. 6, p. 108, pl. 11, fig. 23; Miocene, Italy. _PURPURELLUS_

*_bellardii_ Noszky, 1940, Ann. Hist. Nat. Mus. Natl. Hung., v. 33, p. 28, pl. 2, fig. 1, as _detritus_ var.; Oligocene, Hungary. _PTERYNOTUS_

*BELLEGLADEENSIS E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 3, p. 111, pl. 4, fig. 1, as _anniae_ subsp.; Pleistocene, Florida. _MUREX s.s._

BELLUS Reeve, 1845, Conch. Icon., v. 3, _Murex,_ pl. 21, fig. 84; 1846, Proc. Zool. Soc. London, pt. 13, p. 88; West Atlantic. [? = _messorius_ G. B. Sowerby II]. _MUREX s.s._

*BENDEICA [_Hexaplex_] Eames, 1957, Bull. Brit. Mus. (Nat. Hist.), v. 3, No. 2, p. 41 (for _Poirieria_ cf. _calcitrapa_ Newton, 1922, pl. 3, figs. 22, 23, _non_ Lamarck); Eocene, Nigeria. _POIRIERIA_

*BENDRILLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 237, as _orgellus_ var. (for Pereira Da Costa, 1867, pl. 20, fig. 2); Pliocene, Portugal. _OCENEBRA_

BENEDICTINUS Löbbecke, 1879, Jahr. Deutsch. Malak. Gesell, v. 6, p. 79; Indian Ocean. ? _CHICOREUS_

BENEDICTUS Melvill & Standen, 1895, Jour. of Conch., v. 8, p. 108, pl. 2, fig. 13; Japan. ? _DRUPA_

*BENESSATI Almera & Bofill, 1893, Bol. Com. Mapa Geol. España, v. 19, p. 102, pl. 8, figs. 65-67; Miocene, Spain. ? _POLLIA_

BENOITI Tiberi, 1855, Alcuni Nuovi Testacei, p. 15, pl. 2, figs. 10-12; Mediterranean. _BABELOMUREX_

*BENTARSARIENSIS Oostingh, 1940, Ingenieur Ned.-Indie, v. 7, No. 4, p. 59, pl. 19, figs. 335-337; as *verbeeki* var.; Pliocene, Java. *MUREX s.s.*

BEQUAERTI Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 40, pl. 21, figs. 1, 2; West Atlantic. *PTEROPURPURA*

BERDICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 255, as *cristatus* Brocchi var.; Mediterranean. *MURICOPSIS*

*BERNAYI Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 322, pl. 87, figs. 16, 17; Eocene, France. *MUREXSUL*

*BERTI Meunier, 1880, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 3, p. 253, pl. 14, figs. 25, 26; Oligocene, France. *PUGILINA*

*BEYRICHI von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, p. 41; Oligocene, Germany [n.n. pro *inornatus* Beyrich *non* Récluz; see *borsoni* Michelotti]. *BOLINUS*

BICARINATUS Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 7. TURRIDAE

**bicarinatus* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 101, pl. 7, fig. 8; Miocene, Italy. *BABELOMUREX*

*BICATENATUS [*Muricopsis*] Martin, 1931, Wetenschap. Mededeelingen, No. 18, p. 28, pl. 4, figs. 11, 12; Eocene, Java. ? *PTERYNOTUS*

BICAUDATA [*Bolinus*] Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 166, pl. 5, fig. 53, as *brandaris* var.; Adriatic. *BOLINUS*

*BICAUDATUS Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 307, pl. 1, fig. 5; Miocene, Italy. *OCINEBRINA*

*BICINCTUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 446, pl. 9, fig. 13; Miocene, Italy. *PIRENELLA*

BICOLOR Risso, 1826, Hist. Nat. Europe, v. 4, p. 194; Mediterranean.

bicolor Valenciennes, 1832, Coq. Univalves l'Amér. Equinoxiale, p. 301; East Pacific [? = *erythrostomus* Swainson]. *PHYLLONOTUS*

bicolor Scacchi, 1833, Oss. Zool., p. 23; Mediterranean. CERITHIIDAE

bicolor Cantraine, 1835, Bull. Acad. Roy. Bruxelles, v. 2, p. 393; Adriatic. *ENGINELLA* (type)

bicolor Monterosato, 1878, Enum. e Sinon., p. 40, as *blainvillei* var.; Mediterranean [? = *subspinosus* Adams]. *MURICOPSIS*

bicolor Thiele, 1931, Handbuch Syst. Weicht., v. 1, p. 289, fig. 314; Gulf of California [? = *bakeri* Hertlein & Strong]. *GRACILIMUREX* (type)

*BICONICUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 105, pl. 1, fig. 3; Mio-Pliocene, Australia. *MUREXSUL*

*BICOSTATUS Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 602, pl. 81, figs. 28, 29; Eocene, France. ? *PTERYNOTUS*

*BICRISTATUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 192; ? Pliocene, France [? = *erinaceus* Linné]. *OCENEBRA*

**bicristatus* Mylius, 1891, Atti R. Accad. Sci. Torino, v. 26, p. 454, pl. 8, fig. 11, as *striaeformis* var.; Miocene, Italy. ? *APOLLON*

BIFASCIATUS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 269; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 155; West Africa [? = *rosarium* Röding]. *HEXAPLEX*

*BIFIDUS Bronn, 1828, Zeitsch. Min., pt. 2, p. 533; Pliocene, Italy [? = *funiculosus* Borson]. *HADRIANIA*

*BIFRONS Tournouër *in* Saporta & Marion, 1875, Arch. Mus. Hist. Nat. Lyon, v. 1, p. 153; Locard, 1878, *ibid.,* v. 2, pl. 18, figs. 5-7; Miocene, France. ? *APOLLON*

**bifrons* Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 97, pl. 1, fig. 12; Eocene, Australia. *PTERYNOTUS*

bilineatus "Reeve" Beau, 1858, Revue Coloniale for 1857; West Atlantic [err. pro *trilineatus* Reeve]

*BILLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 244, as *craticulatus*

Brocchi var. (for Hörnes, 1856, pl. 25, fig. 4); ? Pleistocene, Italy [see also *imbricatoides* Hoernes & Auinger]. *OCINEBRINA*

*BINODUS Pecchioli, 1864, Atti Soc. Ital. Sci. Nat., v. 6, p. 502, pl. 5, figs. 30, 31; Pliocene, Italy [see *multicostatus* Pecchioli, also *neocostatus* Cossmann]. *MUREXSUL*

*BINOMINATUS Staadt *in* Cossmann, 1909, Revue Crit. Paléozool., v. 13, p. 68; Pliocene, England [n.n. pro *tortuosus* J. de C. Sowerby *non* Borson]. TROPHONINAE

BIPINNATUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 2, fig. 6; 1846, Proc. Zool. Soc. London, pt. 13, p. 85; Indo-Pacific. *PTERYNOTUS*

BIPUNCTATUS G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 22, fig. 188; Australia. *PTEROCHELUS*

*BISOTENSIS Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 24 [nude name], 199, pl. 2, fig. 8; Pliocene, France [? = *jani* Doderlein]. *DERMOMUREX*

**bispinosa* Beyrich, 1854, Zeitsch. Deutsch. Geol. Gesell., v. 6, p. 755, pl. 14, fig. 3, as *pauwelsii* var.; Oligocene, Germany. *POIRIERIA*

*BISPINOSUS J. de C. Sowerby, 1823, Mineral Conch., v. 5, p. 15, pl. 416, fig. 2; Eocene, England. *PTEROCHELUS*

*BISULCATUS Anton, 1839, Verz. Conch., p. 82; Eocene, France.

BITUBERCULATUS Baker, 1891, Proc. Rochester Acad. Sci., v. 1, p. 133, pl. 11, fig. 4; Australia. *CHICOREUS*

*BIZONATUS Wolff, 1897, Palaeontographica, v. 43, p. 278, pl. 26, fig. 26; Oligocene, Germany. ? TROPHONINAE

BLAINVILLEI Payraudeau, 1826, Cat. Moll. Corse, p. 149, pl. 7, figs. 17, 18; Mediterranean. *MURICOPSIS* (type)

BLAKEANUS E. H. Vokes, 1967, Tulane Stud. Geol., v. 5, No. 2, p. 88, pl. 4, fig. 1; West Atlantic. *MUREX s.s.*

*BOECKHI Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, p. 221, pl. 27, fig. 3; Miocene, Austria. *OCENEBRA*

BOIVINII Kiener, 1842, Coq. Viv., v. 7, p. 81, pl. 43, fig. 2; East Pacific [? = *horridus* Broderip *non* Brocchi, see *broderipii* Michelotti; see note after *alveatus* Kiener]. *NUCELLA*

BOJADORENSIS Locard, 1897, Expéd. Sci. *Travailleur* et *Talisman,* Moll., v. 1, p. 304, pl. 15, figs. 14-16; East Atlantic. *MUREXIELLA*

*BOLLENENSIS Fontannes, 1879, Moll. Pliocènes Rhone et Roussillon, v. 1, p. 3, pl. 1, figs. 2, 3, as *torularius* var.; Pliocene, France. *BOLINUS*

BOMBAYANUS Melvill, 1893, Mem. Manchester Soc., (ser. 4) v. 7, p. 52, pl. 1, fig. 1; Indian Ocean. *MURICOPSIS*

BONANNI della Chiaje, 1841, Anim. Invert. Sicilia, v. 2, p. 129; Mediterranean.

bonanni Monterosato, 1917, Boll. Soc. Zool. Ital., (ser. 3) v. 4, p. 21, ref. to Bonanni, Recr., fig. 278, as *trunculus* var.; Mediterrranean. *HEXAPLEX*

*BONELLII Michelotti, 1847, Nat. Verh. Hollandsche Maat. Wetensch. Haarlem, (ser. 2) v. 3, p. 237, pl. 11, fig. 2; Miocene, Italy [? = *aquitanicus* Grateloup]. *CHICOREUS*

*BONNETI Cossmann, 1903, Jour. de Conchyl., v. 51, p. 150, pl. 5, figs. 26, 27; Pliocene, India. *MUREX s.s.*

*BOPIRUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 241, as *craticulatus* Brocchi var.; Neogene, Italy. *HADRIANIA*

BOREALIS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 30, fig. 145; North Atlantic. *TROPHON*

**borealis* Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, p. 94, pl. 7, fig. 21, as *delbosianus* var.; Miocene, Germany [? = *delbosianus* Grateloup]. *PTEROPURPURA*

*BORNI Hörnes, 1853, Foss. Moll. Wien, v. 1, *in* Abh. K. K. Geol. Reichsanst., v. 3, p. 253, pl. 25, fig. 18; Miocene, Austria [issued in parts, lief. 5 - *Murex*-appeared in 1853; title page and plates in 1856]. *CHICOREUS*

*BORSONII Michelotti, 1847, Nat. Verh. Hollandsche Maat. Wetensch. Haarlem, (ser. 2) v. 3, p. 233, pl. 11, fig. 1; Miocene, Italy [? = *fasciolarius* Grateloup, 1847, not known which name is older; also ? = *partschi* Hörnes, *beyrichi* von Koenen]. *BOLINUS*

*BOURGEOISI Tournouër, 1875, Jour. de Conchyl., v. 23, p. 156, pl. 5, fig. 5; Miocene, France. *CHICOREUS*

BOURGUIGNATI Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, p. 48, pl. 5, fig. 2; Indian Ocean [? = *banksii* G. B. Sowerby II]. *CHICOREUS*

*BOVEUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 200; ? Pliocene, France.

*BOWDENENSIS [*Poirieria*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 27, pl. 5, fig. 5; Miocene, Jamaica. *PAZINOTUS*

BRACHYPTERON [*Pteronotus*] A. Adams, 1863, Proc. Zool. Soc. London, (1862), p. 371; Japan [? = *plorator* Adams & Reeve]. *PTEROPURPURA*

BRACHYS Melvill & Standen, 1896, Jour. of Conch., v. 8, pt. 9, p. 273, pl. 9, fig. 1; Indo-Pacific. ? *MURICOPSIS*

*BRACTEATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 409, pl. 9, fig. 3; Pliocene, Italy. *PSEUDOMUREX* (type)

BRANCHI Clench, 1953, Johnsonia, v. 2, No. 32, p. 360, pl. 179; Gulf of Mexico [? = *beauii* Fischer & Bernardi]. *SIRATUS*

**brandariformis* Schlotheim, 1832, System. Verz. Petrefacten-Samml., p. 36; Pliocene, ? Italy [nude name]

BRANDARIFORMIS Locard, 1886, Prodrome Malac. Française *in* Ann. Soc. Linn. Lyon, (n.s.) v. 32, p. 220 [p. 159 of separate]; Mediterranean [? = *brandaris* Linné]. *BOLINUS*

BRANDARIS Linné, 1758, Syst. Nat., ed. 10, p. 747; Mediterranean. *BOLINUS* (type)

*BRANDEROPSIS de Gregorio, 1895, Ann. Géol. Paléont., livr. 18, p. 3, as *tricarinatus* var.; Eocene, Italy [? = *crenulata* Röding, *tricarinatus* Lamarck]. *PTERYNOTUS*

BRANDUSIUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 57; Adriatic. ? *PURPURA*

BRASILIENSIS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 67, fig. 55; Brazil [? = *senegalensis* Gmelin]. *SIRATUS*

BRASSICA Lamarck, 1822, Anim. s. Vert., v. 7, p. 167; Kiener, 1842, Coq. Viv., v. 7, pl. 26, fig. 1; pl. 27, fig. 1; East Pacific. *PHYLLONOTUS*

BRAZIERI Angas, 1878, Proc. Zool. Soc. London, (1877), p. 171, pl. 26, fig. 3; Tasmania. *MUREXSUL*

**brevicanthos* Sismonda, 1846, Atti 7th Riun. Sci. Ital., p. 1115; Pliocene, Italy [for *saxatilis* Brocchi, 1814, *non* Linné, = *absonus* Cristofori & Jan; *aitus* de Gregorio, 1885, is probably the first available name for the large *Hexaplex* that is the "*brevicanthos*" of authors]. *MUREXIELLA*

*BREVICAUDA Hébert, 1849, Bull. Soc. Géol. France, (ser. 2) v. 6, p. 471; Oligocene, Belgium [for *tricarinatus* Nyst, 1843, pl. 42, fig. 12, *non* Lamarck]. *PTERYNOTUS*

BREVICULUS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 63, fig. 37; Indo-Pacific. *FAVARTIA* (type)

BREVIFRONS Lamarck, 1822, Anim. s. Vert., v. 7, p. 161, ref. to Martini, v. 3, figs. 983-986; Kiener, 1842, Coq. Viv., v. 7, pl. 20, fig. 1; West Atlantic. *CHICOREUS*

BREVIS Forbes, 1844, Rept. Brit. Assoc. Adv. Sci., (1843), p. 190; Aegean. *PSEUDOMUREX*

BREVISPINA Lamarck, 1822, Anim. s. Vert., v. 7, p. 159; Kiener, 1842, Coq. Viv., v. 7, pl. 13, fig. 2; Indian Ocean. *MUREX s.s.* (type—*Tubicauda* Jousseaume)

*BREVISPIRATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 21, pl. 5, fig. 3, as *perfoliatus* var.; Miocene, Italy. *PTERYNOTUS*

BRISKASII Verrill, 1953, Mins. Conch. Club So. Calif., No. 128, p. 2, text fig.; West Atlantic. *SIRATUS*

BRISTOLAE [*Calotrophon*] Hertlein & Strong, 1951, Zoologica, v. 36, No. 5, Mollusks, pt. 10, p. 87, pl. 2, fig. 2; Gulf of California [? = *turrita* Dall]. *CALOTROPHON* (type)

**brocchii* [emend.] Cantraine, 1835, Bull. Acad. Roy. Bruxelles, v. 2, p. 393; Pliocene, Italy [for *saxatilis* Brocchi, 1814, *non* Linné, = *absonus* Cristofori & Jan; orig. as *brochii*]. *MUREXIELLA*

**brocchii* Monterosato, 1875, Nuova Rivista Conch. Medit., p. 39; Pliocene, Italy [for *craticulatus* Brocchi, 1814, pl. 7, fig. 14, *non* Linné; see *Ocenebra* (*Hadriania*) *craticuloides* (Vokes), n.n.] *HADRIANIA*

BRODERIPII Michelotti, 1841, Monografia *Murex,* p. 6; East Pacific [n.n. pro *horridus* Broderip *non* Brocchi; see also *boivinii* Kiener]. *NUCELLA*

*BRONGNIARTII Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], figs. 2, 4; Miocene, France. ? *THAIS*

*BRONNII Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], fig. 31; Miocene, France. ? *THAIS*

brunnea [*Purpura*] Röding, 1798, Museum Boltenianum, p. 142 [nude name]

BRUNNEA [*Purpura*] Link, 1807, Samml. Univ. Rostock, v. 2, p. 121, ref. to Martini, v. 3, figs. 990, 991, 993, 994; Indo-Pacific. *CHICOREUS*

BUBO Linné, 1758, Syst. Nat., ed. 10, p. 748, as *rana* var.; Indo-Pacific [? err. pro *bufo*]. *BURSA*

bubonius Jousseaume, 1893, Bull. Soc. Géol. France, (ser. 3) v. 21, p. 400 [? err. pro *bufonius* Gmelin]. *BURSA*

BUCCINOIDES Pallary, 1904, Jour de Conchyl., v. 52, p. 230, as *trunculus* var.; Mediterranean. *HEXAPLEX*

buccinulum [*Purpura*] Röding, 1798, Museum Boltenianum, p. 140 [nude name]

BUFO Bruguière, 1792, Actes Soc. Hist. Nat. Paris, v. 1, p. 126, ref. to Chemnitz, v. 4, figs. 1272, 1273; West Atlantic. *MARSUPINA* (type, as *Buffo spadiceus* Montfort)

BUFONIUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3534, ref. to Chemnitz, v. 4, figs. 1240, 1241; Indo-Pacific. *BURSA* (type)

*BULBIFORMIS Leathes *in* Woodward, 1833, Geology of Norfolk, p. 44, pl. 3, fig. 21; Pleistocene, England [? = *Buccinum lapillus* Linné]. *NUCELLA*

*BULBOSINUCLEUS [*Muricopsis*?] Eames, 1952, Phil. Trans. Roy. Soc., v. 236B, p. 93, pl. 3, fig. 85; Eocene, Pakistan.

*BULBUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 27, pl. 4, fig. 54; Eocene, England [*Fusus bulbiformis* Lamarck, 1803, is the same species]. *SYCOSTOMA*

*BULLOCKI Yokoyama, 1923, Jap. Jour. Geol. Geog., v. 2, No. 3, p. 51, pl. 6, figs. 5, 6; Miocene, Japan. *CHICOREUS*

BULO [*Truncularia*] Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 167, pl. 6, fig. 56, as *trunculus* var.; Adriatic. *HEXAPLEX*

*BURLENSIS Bajarunass, 1912, Verhandl. Russ. Miner. Gesell., (ser. 2) v. 49, p. 43, pl. 3, figs. 1, 2; Oligocene, Russia. TROPHONINAE

BURNETTII A. Adams & Reeve *in* Reeve, 1849, Conch. Icon., v. 3, *Murex,* Suppl. pl. 1, fig. 192; Japan [Adams & Reeve, Voyage *Samarang,* Zool., Moll., pt. 6, May, 1850, *fide* Sherborn]. *CERATOSTOMA*

**burnsi* Whitfield, 1894 (post-March), U. S. Geol. Sur., Mon. 24, pt. 3, p. 98, pl. 17, fig. 2, as *shilohensis* var.; Miocene, New Jersey [? = *facetus* Vokes]. *MUREXIELLA*

*BURNSII Aldrich, 1894 (January), Nautilus, v. 7, p. 98, pl. 4, fig. 4; Oligocene, Mississippi [see also *grandispinosa* Aldrich]. *PTERYNOTUS*

BURRYI Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 47, pl. 24, figs. 1-3; West Atlantic [? = *fulvescens* G. B. Sowerby II]. *HEXAPLEX*

buschianus "Dunker" Gaudion, 1881, Bull. Soc. Étud. Sci. Nat. Béziers, Année 3, p. 43; New Caledonia [nude name, apparently never described]

BUSHAE [*Pterynotus*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 13, pl. 3, fig. 2 (holotype); West Atlantic (n. n. pro *pygmaeus* Bush *non* Schlotheim]. *PTERYNOTUS*

BUXEUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 194; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 61, fig. 28; East Pacific. ? *CANTHARUS*

*BUXTORFI Martin, 1914, Samml. Geol. Reichsmus. Leiden, (n. s.) v. 2, pt. 4, p. 146, pl. 4, fig. 98; Eocene, Java. NASSARIIDAE

C

a Costa, 1829, Cat. Test. Sicilie, p. 88; Mediterranean [invalid, Code Art. 11 (g) i].

CABRITII Bernardi, 1859, Jour. de Conchyl., v. 7, p. 301, pl. 10, fig. 3; West Atlantic. *MUREX s.s.*

CAENOSUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 59; Adriatic. TURRIDAE

*CAILLATI Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 316, pl. 87, figs. 24-26; Eocene, France. *PTEROCHELUS*

CAILLETI Petit de la Saussaye, 1856, Jour. de Conchyl., v. 5, p. 87, pl. 2, figs. 1, 2; West Atlantic. *SIRATUS*

*CALAMITUS Hanna, 1924, Proc. Calif. Acad. Sci., (ser. 4) v. 13, p. 172; Oligocene, Washington [n.n. pro *vaughani* Dickerson *non* Maury]. *BOREOTROPHON*

*CALCAR J. de C. Sowerby, 1823, Mineral Conch., v. 5, p. 7, pl. 410, fig. 2; Cretaceous, England. ? *TROPHON*

calcar Scacchi, 1835, Ann. Civ. Reg. Duc Sicilie, v. 7, p. 7, pl. 1, fig. 16; Mediterranean [? = *vaginatus* Cristofori & Jan]. *PAGODULA*

calcar Kiener, 1842, Coq. Viv., v. 7, p. 107, pl. 36, fig. 2; Brazil [see *tenuivaricosus* Dautzenberg, n.n.; also *carioca* Vokes, n.n.; see note after *alveatus* Kiener]. *SIRATUS*

CALCARATUS Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 710, ref. to Martini, v. 2, figs. 398-402; Indo-Pacific. *MELONGENA*

CALCARIUS Dunker, 1860, Malak. Blätter, v. 6, p. 230; 1861, Moll. Japonica, pl. 1, fig. 2; Japan. *ERGALATAX*

*CALCITRAPA Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 223; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 81, figs. 26, 27; Eocene, France. *POIRIERIA*

calcitrapa Lamarck, 1822, Anim.. s. Vert., v. 7, p. 162, ref. to Martini, v. 3, fig. 982; Kiener, 1842, Coq. Viv., v. 7, pl. 19, fig. 1; West Atlantic [? = *brevifrons* Lamarck]. *CHICOREUS*

**calcitrapoides* Lamarck, 1822, Anim. s. Vert., v. 7, p. 573; Eocene, France [unnecessary n.n. pro *calcitrapa* Lamarck, 1803, *non* 1822]. *POIRIERIA*

CALEDONICA [*Muricidea*] Jousseaume, 1881, Le Naturaliste, Année 3, No. 44, p. 349; Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, pl. 5, fig. 3; Indo-Pacific. *MURICOPSIS*

CALFIUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 57; Adriatic. CYMATIIDAE

*CALHOUNENSIS [*Murexiella*] E. H. Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, p. 110, pl. 5, fig. 4; Miocene, Florida. *MUREXIELLA*

CALIFORNICUS Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 128; 1844, Voyage *Sulphur,* Zool., Moll., pl. 3, figs. 9, 10; East Pacific [? = *erinaceoides* Valenciennes]. *PTEROPURPURA*

CALIGINOSUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 30, fig. 141; ? East Pacific [? = *lugubris* Broderip]. *OCENEBRA*

*CALISMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 267, as *trunculus* var. (for Hörnes, 1856, pl. 22, fig. 1); Miocene, Austria [? = *aquitanicus* Grateloup]. *CHICOREUS*

CALLIDINUS [_Muricanthus_] Berry, 1958, Leaflets in Malac., v. 1, No. 15, p. 84; East Pacific [for _nitidus_ Reeve, 1845, pl. 17, fig. 70, _non_ Broderip]. _HEXAPLEX_

*CALLIOPE Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 436, pl. 9, fig. 15; Miocene, Italy. _CLINURA_ (type)

CALLOSUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 122.

*CALVUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 96, pl. 1, fig. 11; Eocene, Australia. _PTERYNOTUS_

*CAMERUNENSIS Oppenheim _in_ Esch, 1904, Beit. Geol. Kamerun, p. 279, pl. 9, fig. 15; Paleocene, Africa. _POIRIERIA_

*CAMPANICUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3558, ref. to Argenville, pl. 29, fig. 6-5; Eocene, France. _CLAVALITHES_

*_campanii_ Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name]

*_campanii_ de Stefani & Pantanelli, 1878, Boll. Soc. Malac. Ital., v. 4, p. 90; Miocene, Austria [n. n. pro _hoernesi_ D'Ancona, 1871, _non_ Speyer, which was for _sedgwicki_ Hörnes, 1853, _non_ Michelotti, = _austriacus_ Tournouër]. _HEXAPLEX_

*CAMPLYTROPIS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 105, pl. 3, fig. 2; Miocene, Australia. _BEDEVA_

*CAMPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 261, as _trunculus_ var.; Mediterranean. _HEXAPLEX_

CANALIASPINOSUS Serradell, 1912, Asoc. Cienc. Nat. Barcelona, v. 1, p. 8, fig. 2, as _brandaris_ var.; Mediterrranean. _BOLINUS_

canaliclausa [_Frondosaria_] Schlüter, 1838, Kurz. Syst. Verz. Conch., p. 20 [nude name]

CANALICULATUS Linné, 1758, Syst. Nat., ed. 10, p. 753; West Atlantic. _BUSYCOTYPUS_ (type)

canaliculatus Molina, 1810, Sag. Storia Nat. Chile, ed. 2, p. 178; Chile.

*_canaliculatus_ Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 123, pl. 8, fig. 11; Pliocene, Italy. ? _CORALLIOPHILA_

CANALIFERUS G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 190, fig. 74; 1841, Proc. Zool. Soc. London, pt. 8, p. 172; ? Norfolk Island. _PTEROCHELUS_

*_cancellariiformis_ Mayer, 1869, Jour. de Conchyl., v. 17, p. 84; Miocene, France [unjustified emendation pro _cancellarioides_ Grateloup]. _DERMOMUREX_

*CANCELLARIOIDES Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 99; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 2; Miocene, France. _DERMOMUREX_

*_cancellaroides_ Meyer & Aldrich, 1886, Jour. Cincinnati Soc. Nat. Hist., v. 9, p. 44, pl. 2, fig. 15; Eocene, Mississippi. [Although these two names do differ by a single letter (Code Art. 57d), if considered as a compound word, "cancellaria - like," then the rule (Art. 58-8), which states that use of differing connecting vowels in compound words does not prevent hononymy may be applied. In the interest of stability this seems the indicted course, as the replacement name has gained wide acceptance. See _aldrichi_ Cossmann, n. n.] _TIMOTHIA_

cancellata [_Purpura_] Röding, 1798, Museum Boltenianum, p. 143 [= _triqueter_ Born, both for Martini, v. 3, fig. 1038, see also _variegata_ Röding]. _NAQUETIA_

CANCELLATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3548, ref. to Knorr, pt. 2, pl. 27, fig. 3. _BUCCINUM_

cancellatus G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 190, fig. 79; 1841, Proc. Zool. Soc. London, pt. 8, p. 143; West Atlantic [? = _Typhis triangularis_ A. Adams]. _TRIPTEROTYPHIS_

*CANCELLINUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 225, ref. to Martini, v. 2, figs. 405, 406; Eocene, France. [? = _Distorsio reticulata_

Röding, both for same Martini ref., but the later is a Recent Indo-Pacific species and *cancellinus* is an Eocene fossil. Lamarck cited the Martini figures, noting that his shell from Grignon is "l'analogue bien remarquable de la Grimace blanche. . . qui vit actuellement dans l'Ocean austral."] *DISTORSIO*

CANDIDUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3528, ref. to Argenville, pl. 16, fig. G. *HEXAPLEX*

candidus Gmelin, 1791, Syst. Nat., ed. 13, p. 3556, ref. to Chemnitz, v. 4, fig. 1339; Ceylon [? = *longissimus* Gmelin]. *FUSINUS*

candisatus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 699; Indo-Pacific [= *conditus* Gmelin, both for Chemnitz, v. 10, figs. 1544, 1545]. *COLUBRELLINA* (type, as *Ranella candisata* Lamarck)

*CANHAMI S. V. Wood, 1872, Crag Moll., 1st Suppl., *in* Palaeont. Soc., v. 25, p. 30, pl. 7, fig. 14; Pleistocene, England. TROPHONINAE

*CANIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 238, as *bracteatus* var.; Pliocene, Italy. *PSEUDOMUREX*

CANTRAINEI [*Triton*] Récluz, 1853, Jour. de Conchyl., v. 4, p. 246, pl. 8, fig. 10; West Atlantic [? = *pauperculus* Adams]. *DERMOMUREX*

*CAPELLINII Foresti, 1868, Cat. Moll. Foss. Pliocenici Colline Bolognese, p. 18, pl. 1, figs. 3-5; Pliocene, Italy. *HEXAPLEX*

CAPENSIS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 190, fig. 76; 1841, Proc. Zool. Soc. London, pt. 8, p. 143; South Africa [? = *uncinarius* Lamarck]. *POROPTERON*

*CAPERATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 127, pl. 8, fig. 20; Miocene, Italy. ? *OCINEBRINA*

*CAPGRANDI Tournouër *in* Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 120, pl. 18, fig. 12; Miocene, France. *HEXAPLEX*

*CAPISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 251, as *multicostatus* Pecchioli var. (for D'Ancona, 1871, pl. 4, fig. 7); Pliocene, Italy. *MUREXSUL*

CAPITELLUM Linné, 1758, Syst. Nat., ed. 10, p. 750; West Atlantic. *VASUM*

*CAPITO Philippi, 1844, Tertiärverst. N.-W. Deutsch., p. 60, pl. 4, figs. 19, 20; Oligocene, Germany. *POIRIERIA*

*CAPOLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 253, as [*Purpura*] *edwardsi* var.; Mediterranean. *OCINEBRINA*

CAPUCINA [*Purpura*] Röding, 1798, Museum Boltenianum, p. 143, ref. to Favanne, fig. 1073, and Martini, v. 3, fig. 994; Indo-Pacific. [Although recently revived by Cernohorsky (Veliger, 1967, v. 10, p. 118) for the species long known as *capucinus* Lamarck, this is not the same form but is a composite species consisting of *triqueter* Born (Favanne, fig. 1073) and *quadrifrons* Lamarck (Mart., fig. 994). Inasmuch as it had never been used until Cernohorsky it should be treated as a *nomen oblitum* or at best a species *dubium.*] *NAQUETIA* + *CHICOREUS*

CAPUCINUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 164, ref. to Chemnitz, v. 11, figs. 1849, 1850; Indo-Pacific. [Lamarck cited the well done, easily recognizable figures of Chemnitz and the shell illustrated was known by the name *"Murex capucinus"* for almost 100 years. In 1915 Hedley (Proc. Linn. Soc. New South Wales, v. 39, p. 745) announced that he had examined Lamarck's "type specimen" and it was not the shell usually thought of as *capucinus* but was another species, probably *torrefactus* G. B. Sowerby II. From Lamarck's statement: "Longueur de mon plus grand individu, 4 pouces 9 lignes" it is evident that there was more than one specimen in the lot, hence what Hedley saw could not be the holotype, but at least one of Lamarck's shells probably was *torrefactus,* or some other similar species, as the size he gives is much larger than any specimen known of *capucinus.* Presumably a lectotype should be chosen, which would match the

Chemnitz illustrations. Although Röding's *capucina* was named in the genus *Purpura,* the type of which has been selected as *trunculus* Linné making it is synonym of *Hexaplex,* the possibility of secondary homonymy is present. In such case, the name *permaestus* Hedley is available.] *NAQUETIA* (type-*Rhizophorimurex* Oyama)

*CAPUGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 235, as *polymorphus* var.; Pliocene, Italy. *OCENEBRA*

*CARBONARIUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 150; Cretaceous, Germany. CERITHIACEA

CARBONNIERI [*Acupurpura*] Jousseaume, 1881, Le Naturaliste, Année 3, No. 44, p. 349; Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, pl. 4, fig. 1; Red Sea. *MUREX s.s.*

*CARCARENSIS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 102, pl. 7, fig. 10; Miocene, Italy. *FLEXOPTERON*

CARDUUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 61, fig. 22; East Pacific. ? TROPHONINAE

*CARIBUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 273, as *absonus* var. (for Bellardi, 1872, pl. 5, fig. 6 [err. pro fig. 3]; Pliocene, Italy. *MUREXIELLA*

CARICA Gmelin, 1791, Syst. Nat., ed. 13, p. 3545, ref. to Martini, v . 3, figs. 744, 756, 757; West Atlantic. *BUSYCON* (type, as *muricatum* Röding)

*CARIMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 281, as *plicatus* Brocchi var.; Pliocene, Italy. *ENGINA*

CARINATUM [*Haustellum*] Schumacher, 1817, Essai Vers Test., p. 213, ref. to Martini, v. 3, fig. 1069; Indian Ocean [? = *spirillus* Linné]. *TUDICLA*

CARINATUS Pennant, 1777, British Zool., ed. 4, p. 123, pl. 77, fig. 96; North Sea. *NEPTUNEA*

carinatus Fischer de Waldheim, 1807, Mus. Demidoff, v. 3, p. 201; Indian Ocean [= *Fusus carnarius* Röding, both for Chemnitz, v. 10, fig. 1566]. *MELONGENA*

carinatus Bivona-Bernardi, 1832, Eff. Sci. Lett. Sicilia, v. 2, p. 23, pl. 3, fig. 12; Mediterranean [? = *vaginatus* Cristofori & Jan]. *PAGODULA*

*CARINELLA J. Sowerby, 1818, Mineral Conch., v. 2, p. 196, pl. 187, figs. 3-4; Eocene, England. *CHRYSODOMUS*

CARINIFERUS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 67, fig. 58; ? Japan. [This species is not preoccupied by *Murex cariniferus* Wood, 1818, = *Fusus cariniferus* Lamarck, 1816; *Murex cariniferus* "Sowerby" of Keiner, 1842, and Reeve, 1845, is not Sowerby's species but is *Latiaxis kieneri* Hidalgo.] *LATIAXIS*

carioca [*Chicoreus*] E. H. Vokes, 1968, Tulane Stud. Geol., v. 6, No. 1, p. 39, text fig. 1; Brazil [n.n. pro *calcar* Kiener *non* J. de C. Sowerby, etc.; see *tenuivaricosus* Dautzenberg]. *SIRATUS*

CARIOSUS Linné, 1767, Syst. Nat., ed. 12, p. 1220; Middle East. *CANTHIDOMUS* (type, as *costata* Férussac)

cariosus Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 22, Indo-Pacific [? = *Purpura fenestrata* Blainville]. *MORULA*

CARISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 286, as [*Buccinum*] *dorbignyi* Payraudeau var.; Mediterranean. *ENGINA*

CARMEN [*Tritonalia*] Lowe, 1935, Trans. San Diego Soc. Nat. Hist., v. 8, No. 6, p. 20, pl. 2, fig. 6; Gulf of California [? = *Sistrum rufonotatum* Carpenter]. *ATTILIOSA*

CARNEOLA [*Purpura*] Röding, 1798, Museum Boltenianum, p. 142, ref. to Martini, v. 3, figs. 995, 996; Indo-Pacific [*saulii* G. B. Sowerby II, 1841, is ? the same species]. *CHICOREUS*

CARNICOLOR Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 48, pl. 25, figs. 1-4; West Atlantic [for *interserratus* Dall, 1889, *non* G. B. Sowerby II]. *PANAMUREX*

CARPENTERI [*Pteronotus*] Dall, 1899, Nautilus, v. 12, p. 138; 1902, Proc. U.S. Nat. Mus., v. 24, pl. 34, fig. 9; California [? = *macropterus* Deshayes]. *PTEROPURPURA*

*CARVALHOI [*Muricopsis*] Cox, 1936, Publ. Mus. Min. Geol. Univ. Coimbre, Mem. Not., v. 9, p. 58, pl. 1, fig. 11; Pliocene, Portugal. *OCINEBRINA*

*CASSIS von Koenen, 1885, Abh. K. Gesell. Wissen. Göttingen, v. 32, p. 7, pl. 1, fig. 4; Paleocene, Denmark.

CASTANEUS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 64, fig. 44; ? Indo-Pacific [? = *quadrifrons* Lamarck]. *CHICOREUS*

CASTUS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 71; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 225; China. *FAVARTIA*

*CATAPHRACTUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 427, pl. 8, fig. 16; Miocene, Italy. *BATHYTOMA* (type)

cataphractus G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 63, fig. 40; Mediterranean [? = *cristatus* Brocchi]. *MURICOPSIS*

*CATOSUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 244, as *craticulatus* Brocchi var. (for Hörnes, 1856, pl. 25 [err. pro pl. 24], fig. 10); Miocene, Austria. *HADRIANIA*

CAUDATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3535, ref. to Martini, v. 3, figs. 1045-1047; Indo-Pacific. *RANULARIA*

CAUDICULA Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 59; Adriatic [? = *Pleurotoma leufroyi* Michaud]. *CLATHURELLA*

CAUDINUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 260, as *trunculus* var.; Mediterranean. *HEXAPLEX*

cecillei "Petit" Paetel, 1883, Cat.-Conch. Samml., p. 3 [nude name]

*CEDILLATUS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 136, pl. 15, figs. 9, 10; Miocene, France. *MUREXSUL*

CELLULOSUS Conrad, 1846, Proc. Acad. Nat. Sci. Phila., v. 3, p. 25; Perry, 1940, Marine Shells Southwest Florida, pl. 31, fig. 217; West Atlantic. *FAVARTIA*

CENTRIFUGA Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 126; 1844, Voyage *Sulphur,* Zool., Moll., pl. 3, figs. 7, 8; East Pacific. *PTEROPURPURA* (type — *Centrifuga* Grant & Gale)

CERAMICUS Linné 1758, Syst. Nat., ed. 10, p. 751; Indo-Pacific. *VASUM* (type)

CERATUS Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 15. *LATIRUS*

CERVICORNIS Lamarck, 1822, Anim. s. Vert., v. 7, p. 163; Kiener, 1842, Coq. Viv., v. 7, pl. 20, fig. 2; Australia. *CHICOREUS*

*CHAPUISI Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 331, pl. 88, figs. 1-3; as *plicatilis* var.; Eocene, France. BUCCINIDAE

*CHERPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 233, as *polymorphus* var.; Pliocene, Italy. *OCENEBRA*

*CHIPOLANA Dall, 1890, Trans. Wagner Free Inst. Sci., v. 3, pt. 1, p. 139, as *chrysostoma* var.; Vokes, 1963, Tulane Stud. Geol., v. 1, No. 3, pl. 1, fig. 3 (lectotype); Miocene, Florida. *SIRATUS*

*CHISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 250, as *lassaignei* var. (for Pereira Da Costa, 1867, pl. 19, fig. 9); Miocene, Portugal. *OCENEBRA*

*CHITIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 234, as *polymorphus* var. (for Michelotti, 1841, pl. 2, fig. 4); Pliocene, Italy. *OCENEBRA*

CHORDULA Turton, 1819, Conch. Dict., p. 98; Irish Sea.

CHRYSOSTOMA Gray *in* G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 58, fig. 1; West Atlantic. *MUREX s.s.*

CIBONEY Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 20, pl. 10, figs. 1-3; West Atlantic. *SIRATUS*

CICHOREUM Gmelin, 1791, Syst. Nat., ed. 13, p. 3530, ref. to Argenville, pl. 16, fig. K; Indo-Pacific [*endivia* Lamarck, 1822, is the same species]. *HEXAPLEX* (type, as *foliacea* Perry)

*CINCTUS Wrigley, 1930, Proc. Malac. Soc. London, v. 19, p. 111, pl. 10, fig. 22, as *sexdentatus* var.; Eocene, England. ? *NUCELLA*

CINERA [*Aranea*] Perry, 1811, Conchology, pl. 46, fig. 4. *BOLINUS*

CINEREUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 99; Red Sea.

CINGULATA [*Bolinus*] Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 166, pl. 5, fig. 52, as *brandaris* var.; Adriatic. *BOLINUS*

CINGULATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3561, ref. to Chemnitz, v. 4, fig. 1492; Indo-Pacific. *CERITHIDEOPSILLA* (type, as *fluviatilis* Potiez & Michaud)

**cingulatus* Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 224; Eocene, France [see *subangulatus* Lamarck, n.n.]

cingulatus Lamarck, 1822, Anim. s. Vert., v. 7, p. 175; Recent.

**cingulatus* Schlotheim, 1832, System. Verz. Petrefacten-Samml., p. 36 [nude name]

CINGULIFERUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 175; Kiener, 1842, Coq. Viv., v. 7, pl. 30, fig. 2; Mediterranean [? = *erinaceus* Linné]. *OCENEBRA*

CINOSURUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 55; Adriatic [? = *blainvillei* Payraudeau]. *MURICOPSIS*

*CIPILLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 252; Miocene, Italy. ? *MUREXSUL*

*CIRRATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 70, pl. 5, fig. 4; Miocene, Italy. ? *MUREXSUL*

CIRROSUS Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 118; 1844, Voyage *Sulphur,* Zool., Moll., pl. 3, figs. 17, 18; Indo-Pacific. *MUREXIELLA*

CITHAROEDUS Holton, 1802, Enum. Syst. Conch. Chemnitz., p. 60, ref. to Chemnitz, v. 11, figs. 1862, 1863. *CYTHARA*

*CITIMUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 101, pl. 7, fig. 9; Miocene, Italy. *FLEXOPTERON*

**citimus* de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 248, as *truncatulus* var.; Miocene, Italy. *HEXAPLEX*

CITRINUS M. Smith, 1940, Nautilus, v. 54, p. 45, as *recurvirostris* var.; West Atlantic [? = *rubidum* Baker]. *MUREX s.s.*

clandestinus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 723; Indo-Pacific [= *Triton clandestinum* Lamarck, 1816, both for Chemnitz, v. 11, figs. 1856, 1857; ? = *succinctus* Linné]. *GELAGNA*

*CLARKSVILLENSIS [*Muricidea*] Mansfield, 1937, Jour. Paleont., v. 11, p. 610, pl. 85, fig. 6; Miocene, Florida. *PANAMUREX*

CLATHRATUS Linné, 1767, Syst. Nat., ed. 12, p. 1223; North Atlantic. *BOREOTROPHON* (type)

**clathratus* Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 224; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 94b, figs. 21-23; Eocene, France. *COPTOCHETUS*

clathratus Reeve, 1846, Conch. Icon., v. 3, *Murex,* pl. 35, fig. 185. ? *TROPHONOPSIS*

CLAUSII Dunker, 1879, Jour. de Conchyl., v. 27, p. 215, pl. 8, fig. 6; West Africa. *CHICOREUS*

CLAVA Gmelin, 1791, Syst. Nat., ed. 13, p. 3565, ref. to Chemnitz, v. 10, vign. 22; ? Indo-Pacific. *RHINOCLAVIS*

clavaherculis Röding, 1798, Museum Boltenianum, p. 144; Mediterranean [= *brandaris* Linné]. *BOLINUS*

CLAVATOR Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 701; Indo-Pacific [*Triton clavator* Lamarck, 1822, is the same species, both for Chemnitz, v. 10. figs. 1825, 1826]. *RANULARIA* (type, as *T. clavator* Lamarck) *clavatulus* Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 713; South Africa [= *Clavatula coronata* Lamarck, 1801, both for Chemnitz, v. 11, figs. 1831, 1832]. *CLAVATULA*

CLAVATUM [*Haustellum*] Schumacher, 1817, Essai Vers Test., p. 214, ref. to Martini, v. 3, figs. 1058-1065; Mediterranean [? = *brandaris* Linné]. *BOLINUS*

*CLAVATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 418, pl. 8, fig. 2; Mio-Pliocene, Italy. *FUSINUS*

*CLAVUS Michelotti, 1841, Monografia *Murex,* p. 20, pl. 5, figs. 2, 3; Miocene, Italy. [This name is not preoccupied by *clava* Gmelin, as the two words are not adjectives but nouns — *clava* = club; *clavus* = nail]. *HOMALOCANTHA*

clavus Kiener, 1842, Coq. Viv., v. 7, p. 111, pl. 37, fig. 2; Indo-Pacific [? = *elongatus* Lightfoot; see note after *alveatus* Kiener]. *PTERYNOTUS* (type — *Marchia* Jousseaume)

CLENCHI Carcelles, 1953, Comun. Zool. Mus. Montevideo, v. 4, No. 70, p. 7, pl. 5, figs. 23-28; South Atlantic. *POIRIERIA*

CLERYI Petit de la Saussaye, 1840, Rev. Zool. Soc. Cuvier, v. 3, p. 327; 1842, Mag. Zool., pl. 54; Brazil. *RUGOTYPHIS*

*CLIFDENENSIS [*Murexsul* ?] Finlay, 1930, Trans. New Zealand Inst., v. 61, p. 72, pl. 1, figs. 2, 8; Miocene, New Zealand. *MUREXSUL*

CNISSODUS Euthyme, 1889, Bull. Soc. Malac. France, v. 6, p. 263, pl. 6, figs. 1, 2; Indo-Pacific. *CHICOREUS*

coca "Sowerby" Kiener, 1843, Coq. Viv., v. 7, p. 7 [err. pro *occa* G. B. Sowerby II]

COCCINEUS Lesson, 1844, Écho Monde Savant, v. 11, No. 23, p. 538; East Pacific.

coccineus A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 72; West Atlantic.

COCHLIDIUM Linné, 1758, Syst. Nat., ed. 10, p. 753; Australia. PUGULINA

COGENER [*Purpura*] Röding, 1798, Museum Boltenianum, p. 140, ref. to Martini, v. 3, fig. 1026; Mediterranean [? = *erinaceus* Linné]. *OCENEBRA*

*COGNATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 141; Oligocene, Germany. TURRIDAE

**cognatus* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 84, pl. 6, fig. 9; Miocene, Italy. ? *CHICOREUS*

*COISLINENSIS Cossmann, 1902, Moll. Éocén. Loire-Infer., v. 2, fasc. 2, *in* Bull. Soc. Sci. Nat. Ouest France, Nantes, (ser. 2) v. 2, p. 182 (132), pl. 17 (12), fig. 7; Eocene, France.

*COLEI Palmer, 1937, Bull. Amer. Paleont., v. 7, No. 32, p. 265, pl. 35, figs. 4, 6; Eocene, South Carolina. *HEXAPLEX*

*COLLATUS Guppy, 1873, Proc. Sci. Assoc. Trinidad, v. 2, p. 83, pl. 1, fig. 8; Miocene, Jamaica. *FLEXOPTERON*

*COLLEGA Boettger, 1906, Vehr. Mitt. Siebend. Ver. Naturw. Hermannstadt, v. 54, p. 42; Zilch, 1934, Senckenbergiana, v. 16, pl. 15, fig. 78 (holotype); Miocene, Romania. *MUREXIELLA*

colosseus Wood, 1818, Index Test., p. 125, pl. 26, fig. 72 [*Fusus collosseus* Lamarck, 1816, is the same species]. *HEMIFUSUS* (type, as *"colossus"* Lamarck)

COLPOS Dall *in* Burch, 1955, Mins. Conch. Club So. Calif., No. 149, p. 12 [n.n. pro *mexicana* Stearns *non* Petit, ? = *torrefactus* G. B. Sowerby II]. *CHICOREUS*

*COLUBRINUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 226; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 80, figs. 22-24; Eocene, France. *SASSIA*

COLUMBARIUM Gmelin, 1791, Syst. Nat., ed. 13, p. 3559, ref. to Chemnitz, v. 18 [err. pro v. 10], figs. 1637, 1638; Indo-Pacific. *PERISTERNIA*

COLUMNIUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 197; Mediterranean.

COLUS Linné, 1758, Syst. Nat., ed. 10, p. 753; Indo-Pacific. *FUSINUS* (type)

**combustulus* Schlotheim, 1832, System. Verz. Petrefacten-Samml., p. 37 [nude name]

compacta Pallary, 1912, Mém. Inst. Egypte, v. 7, p. 99, as *brandaris* var.; Mediterranean. *BOLINUS*

*COMPACTUS Gabb, 1873, Trans. Amer. Phil. Soc., (n.s.) v. 15, p. 202; Pilsbry, 1922, Proc. Acad. Nat. Sci. Phila., v. 73, pl. 28, fig. 1 (lectotype); Miocene, Dominican Republic. *CHICOREUS*

*COMPLICATUS Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 96; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], fig. 6; Miocene, France. ? *OCENEBRA*

*COMPRESSUS Woodward, 1833, Geology of Norfolk, p. 45, pl. 3, fig. 26; Pleistocene, England [? = *Buccinum lapillus* Linné]. *NUCELLA*

*COMPSORHYTIS Gabb, 1860, Jour. Acad. Nat. Sci. Phila., (ser. 2) v. 4, p. 377, pl. 67, fig. 16; Eocene, Texas. *ODONTOPOLYS* (type)

*COMPTUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 126, pl. 8, fig. 18; Miocene, Italy. ? *CORALLIOPHILA*

COMUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 61; Adriatic. TURRIDAE

CONATUS [*Murexsul*] McMichael, 1964, Jour. Aust. Malac. Soc., No. 8, p. 31, pl. 4; Australia. *MUREXSUL*

CONCATENATUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 176, ref. to Chemnitz, v. 4, figs. 1155-1157; Indo-Pacific. *MORULA*

*CONCERPTUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 111, pl. 7, fig. 13; Pliocene, Italy. *OCINEBRINA*

**concinna* Nomland, 1917, Univ. Calif. Publ., Bull. Geol., v. 10, No. 14, p. 236, pl. 12, fig. 6; Pliocene, California [see *temalentus* Hanna, n.n.] *OCENEBRA*

CONCINNUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 25, fig. 104; ? Indo-Pacific. *MUREX s.s.*

*CONCRISPATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 125, pl. 8, fig. 16; Miocene, Italy [? = *scarrosus* Bellardi]. *LATIMUREX*

*CONDIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 245 (for Hörnes, 1856, pl. 14 [err. pro pl. 24], fig. 15); Miocene, Italy [? = *Fusus caelatus* Grateloup]. *OCINEBRINA*

CONDITUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3565, ref. to Chemnitz, v. 10, figs. 1544, 1545; Indo-Pacific. *COLUBRELLINA* (type, as *Ranella candisata* Lamarck)

*CONFLUENS Eichwald, 1830, Naturhist. Lithauen, p. 224; 1855, Lethaea Rossica, p. 192, pl. 8, fig. 11; Miocene, Central Europe. *OCINEBRINA*

*CONFRAGUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 122, pl. 8, fig. 9; Miocene, Italy. *LATIMUREX*

CONFUSA Brazier, 1877, Proc. Linn. Soc. New South Wales, v. 1, p. 172; Hedley, 1901, Rec. Australian Mus., v. 4, pl. 16, fig. 4; Australia. *MUREXIELLA*

*CONGLOBATUS Michelotti, 1841, Monografia *Murex,* p. 16, pl. 4, fig. 7; Mio-Pliocene, Italy. *HEXAPLEX*

*CONGLOBOPSIS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 229, as *brandaris* var.; Pliocene, Italy. *BOLINUS*

CONICA Serradell, 1912, Asoc. Cienc. Nat. Barcelona, v. 1, p. 10, fig. 10, as *brandaris* var.; Mediterranean. *BOLINUS*

*CONIFERUS J. Sowerby, 1818, Mineral Conch., v. 2, p. 195, pl. 187, fig. 1; Eocene, England. *NEPTUNEA*

*CONOIDES Solander *in* Brander, 1766, Foss. Hantoniensia, p. 14, pl. 1, fig. 17; Eocene, England. *ASTHENOTOMA*

**conradi* d'Orbigny, 1850, Prodrome Paléont., v. 2, p. 364; Eocene, Alabama [unnecessary n. n. pro *mantelli* Conrad]. *MUREXIELLA*

**conradi* Dall, 1890, Trans. Wagner Free Inst. Sci., v. 3, pt. 1, p. 143, pl. 12, figs. 8, 11; Mio-Pliocene, Florida & South Carolina [see *Pterorytis conradiana* Dall, also *P. fluviana* Dall]. *PTERORYTIS*

*CONRADI [*Rhinocantha* ?] Whitfield, 1892, U.S. Geol. Sur., Mon. 18, p. 191, pl. 24, figs. 8-11; Eocene, New Jersey. ? *PYROPSIS*

*CONSOBRINUS d'Orbigny. 1852, Prodrome Paléont., v. 3, p. 73; Oligocene, France [for *erinaceus* Grateloup, 1847, pl. 30, fig. 18, *non* Linné]. *PTEROPURPURA*

CONSPERSA Dautzenberg, 1887, Bull. Soc. Études Sci. Paris, Année 9, p. 25 [? of separate], as *erinaceus* var.; East Atlantic. *OCENEBRA*

CONSPICUA [*Aranea*] Perry, 1811, Arcana, pl. 54; ? West Africa [? = *cornutus* Linné]. *BOLINUS*

**conspicuus* Braun *in* Sandberger, 1863, Conchyl. Mainzer Tertiärbeckens, p. 213, pl. 18, fig. 6; Oligocene, Germany. [Inasmuch as *Aranea* Perry is a synonym of *Murex s.s.*, this name is preoccupied by *A. conspicua* Perry; see *acuticostatus* Gümbel.] *OCINEBRINA*

*CONSTANTIAE D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, p. 330, pl. 2, fig. 3; Pliocene, Italy. *PAZIELLA*

*CONSTANTINENSIS Cossmann & Peyrot, 1901, Faune Eocén. Cotentin, fasc. 2, *in* Bull. Soc. Géol. Normandie, v. 20, p. 130, pl. 14, fig. 4; Eocene, France ? *HEXAPLEX*

CONSUELA Verrill, 1950, Mins. Conch. Club So. Calif., No. 101, p. 7, text fig. p. 6, as *pulcher* Adams var.; West Atlantic. *SIRATUS*

CONSUL Gmelin, 1791, Syst. Nat., ed. 13, p. 3540, ref. to Chemnitz, v. 10, figs. 1516, 1517; ? Indian Ocean. *THAIS*

*CONTABULATUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 223; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 82, figs. 5, 6; Eocene France. *PTERYNOTUS*

*CONTIGUUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 433, pl. 9, fig. 14; Miocene, Italy. *HEMIPLEUROTOMA*

*CONTORTUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 124, pl. 8, fig. 14; Miocene, Italy. *TIMOTHIA*

CONTRARIUS Linné, 1771, Mantissa Plantarum, v. 2, p. 551; North Atlantic. *NEPTUNEA*

CONULUS Olivi, 1792, Zool. Adriat., p. 154, pl. 5, figs. 1, 2; Adriatic. *MITRELLA*

*CONVEXIOR Montanaro, 1935, Palaeont. Ital., v. 35, p. 14, pl. 1, fig. 5, as *spinicosta* Bronn var.; Miocene, Italy. *MUREX s.s.*

*CONVEXUS Friedberg, 1912, Mieczaki Miocen. *in* Muz. Dzieduszyckich, v. 14, No. 2, p. 167, pl. 10, fig. 8, as *confluens* var.; Miocene, Poland. *OCINEBRINA*

*COOSENSIS Turner, 1938, Geol. Soc. Amer., Spec. Paper 10, p. 80, pl. 15, fig. 25; Eocene, Oregon. ? *ODONTOPOLYS*

COPPINGERI E. A. Smith, 1884, Voyage *Alert,* Zool., p. 42, pl. 5, fig. a; Australia, *MUREX s.s.*

coralligena Monterosato, 1878, Enum. e Sinon., p. 41; Mediterranean [nude name, see *nicolai* Monterosato]. *OCINEBRINA*

CORALLINUS Scacchi, 1836, Cat. Conch. Regni Neapolitani, p. 11, fig. 15; Mediterranean [? = *aciculatus* Lamarck]. *OCINEBRINA* (type)

CORDISMEI Watson, 1883, Jour. Linn. Soc. London, v. 16, p. 601; 1885, *Challenger* Report, Zool., v. 15, pt. 2, pl. 10, fig. 5; Australia [? = *zonatus* Tenison-Woods]. *PTEROCHELUS*

COREANICUS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 72; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 131; North Pacific. *CERATOSTOMA*

CORNEUS Linné, 1758, Syst. Nat., ed. 10, p. 754; Mediterranean. *EUTHRIA* (type)

**corniculatus* [*Hexaplex*] Vergneau *in* Glibert, 1963, Mém. Inst. Roy. Sci. Nat.

Belg., (ser. 2), fasc. 74, p. 8; Oligocene, France [nude name, see *turbinelloides* Grateloup]. *PANAMUREX*

CORNUCERVI [*Purpura*] Röding, 1798, Museum Boltenianum, p. 142, ref. to Martini, v. 3, figs. 987, 988; Australia. *CHICOREUS* (type—*Euphyllon* Jousseaume, as *monodon* G. B. Sowerby I)

cornucervi [*Triplex*] Perry, 1811, Conchology, pl. 7, fig. 4; Australia [? = *damicornis* Hedley]. *CHICOREUS*

cornudama [*Purpura*] Röding, 1798, Museum Boltenianum, p. 142 [nude name]. ? *CHICOREUS*

*CORNURECTUS Guppy, 1876, Quart. Jour. Geol. Soc. London, v. 32, p. 521, pl. 28, fig. 4; Miocene, Dominican Republic. _CHICOREUS_

CORNUTA [*Triplex*] Perry, 1811, Conchology, pl. 7, fig. 3; West Atlantic [? = *brevifrons* Lamarck]. *CHICOREUS*

CORNUTUS Linné, 1758, Syst. Nat., ed. 10, p. 746; West Africa. *BOLINUS*

CORONA Gmelin, 1791, Syst. Nat., ed. 13, p. 3552, ref. to Chemnitz, v. 10, figs. 1526, 1527; West Atlantic. *MELONGENA*

CORONATUS Born, 1778, Index Mus. Caes. Vind., pp. 326-327, ref. to Chemnitz, v. 4, fig. 1478; Indo-Pacific [? = *aluco* Linné]. *PSEUDOVERTAGUS*

*_coronatus_ J. Sowerby, 1819, Mineral Conch., v. 3, p. 52, pl. 230, fig. 3; Eocene, England [? = _spinulosus_ Deshayes; see _subcoronatus_ d'Orbigny n.n.]. _PAZIELLA_

*_coronatus_ Risso, 1826, Hist. Nat. Europe, v. 4, p. 190, pl. 6, fig. 78; ? Pliocene, Italy [?= _brandariformis_ Locard]. _BOLINUS_

CORONATUS [*Phyllonotus*] A. Adams, 1863, Proc. Zool. Soc. London, (1862), p. 372 [not G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 199—figure is *sobrinus* Adams, a completely different species]; Japan. *OCINEBRELLUS*

CORRUGATUS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 189, fig. 72; 1841, Proc. Zool. Soc. London, pt. 8, p. 142; Red Sea. *CHICOREUS*

*CORTAZARI Cossmann, 1906, Bol. Com. Mapa Geol. España, (ser. 2) v. 8, p. 3, pl. A, figs. 6-8; Eocene, Spain. _FLEXOPTERON_

*COSGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 242, as _craticulatus_ Brocchi var.; Pliocene, Italy. _HADRIANIA_

*COSMOLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 281, as _plicatus_ Brocchi var.; Pliocene, Italy. _ENGINA_

cospinosus "Reeve" Cotton, 1956, Roy. Soc. So. Aust., Malac. Sect., Publ. No. 8, [p. 1]; Australia [? = err. pro *aduncospinosus* Beck]

COSTATUS Pennant, 1777, Brit. Zool., ed. 4, v. 4, p. 125, pl. 79; Wood, 1818, Index Test., pl. 27, fig. 130; North Sea. TURRIDAE

costatus Born, 1778, Index Mus. Caes. Vind., pp. 296-297, ref. to Chemnitz, v. 4, fig. 1253; Mediterranean [=*parthenopus* Salis, both for same Chemnitz ref. (fig. 1252 is front view, fig. 1253 is back view of same shell)]. *MONOPLEX*

*_costatus_ Gmelin, 1791, Syst. Nat., ed. 13, p. 3543; Eocene, France [= _Plejona fossilis_ Röding, both for Argenville, pl. 29, fig. 10-3]. _ATHLETA_

costatus Gmelin, 1791, Syst. Nat., ed. 13, p. 3549; Brazil [= *senegalensis* Gmelin, both for Adanson, pl. 8, fig. 19]. *SIRATUS*

*_costatus_ [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 146; Eocene, Italy. EPITONIIDAE

*COSTELLATUS [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 152; Oligocene, Germany. CERITHIACEA

*COSTELLIFER J. Sowerby, 1818, Mineral Conch., v. 2, p. 225, pl. 199, fig. 3; Pliocene, England. ? _PLICIFUSUS_

COSTULARIS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 419, fig. 8; 1822, Anim. s. Vert., v. 7, p. 173; Indo-Pacific. *LATIMUREX*

COSTULATUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 111.

*_costulatus_ Risso, 1826, Hist. Nat. Europe, v. 4, p. 197; ? Pleistocene, France.

costulatus Chiereghini _in_ Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 55; Adriatic.

*_costulatus_ Steuer, 1912, Abh. Geol. Land. Darmstadt, v. 6, p. 30, pl. 2, figs. 12-14; Oligocene, Germany. _ODONTOPOLYS_

*COTTEAVI Meunier, 1880, Nouv. Arch. Mus. Nat. Hist., (ser. 2) v. 3, p. 253, pl. 14, figs. 29, 30; Oligocene, France [? = _tenellus_ Mayer. Although named for Cotteau, Code Art. 32 states original spelling is to be considered "correct," and incorrect transliteration or improper latinization does not justify emendation.] _DERMOMUREX_

*COWLITZENSIS Weaver, 1912, Washington Geol. Sur., Bull. 15, p. 49, pl. 1, fig. 7; Eocene, Washington. _HEXAPLEX_

cracherodi G. B. Sowerby II, 1879, Thes. Conch., v. 4, _Murex,_ p. 5 [nude name; specimen so labeled in BM(NH) collection is _rubidum_ Baker]. _MUREX s.s._

*CRAMPELI Mayer-Eymar, 1898, Jour. de Conchyl., v. 46, p. 231, pl. 14, fig. 7; Eocene, Egypt [type specimen is an unidentifiable internal mold]

*CRASSICOSTA [_Jania_] Benoist, 1873, Actes Soc. Linn. Bordeaux, v. 29, p. 349; Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine _in_ Actes Soc. Linn. Bordeaux, v. 75, p. 142, pl. 15, fig. 5 [stated also to be fig. 6, but not found]; Miocene, France. _MURICOPSIS_

*CRASSICOSTATUS Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 601, pl. 82, figs. 13, 14; Eocene, France. _LYROPURPURA_ (type)

*CRASSILABIATUS Hilber, 1879, K. Akad. Wissen Wien, Sitzungsber., v. 79, No. 1, pt. 5, p. 432, pl. 3, figs. 1, 2; Miocene, Central Europe. _OCINEBRINA_

crassilabris Potiez & Michaud, 1838, Gal. Moll. Douai, v. 1, p. 414, pl. 33, figs. 10, 11; Chile [err. pro _crassilabrum_ Gray]

CRASSILABRUM Gray _in_ G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 59, fig. 14; Chile. _CRASSILABRUM_ (type)

*_crassilineatus_ "Tate" Cotton, 1957, Roy. Soc. So. Aust., Malac. Sect., Publ. No. 8, [p. 2] [err. pro _crassiliratus_ Tate]

*CRASSILIRATUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 107, pl. 3, fig. 5; Pliocene, Australia. ? _DERMOMUREX_

CRASSISPINA Lamarck, 1822, Anim. s. Vert., v. 7, p. 157 [not Kiener, 1842, Coq. Viv., v. 7, pl. 4, fig. 1, & pl. 5, fig. 1—these figs. are _scolopax_ Dillwyn]; Indo-Pacific [? = _tribulus_ Linné]. _MUREX s.s._

*_crassipina_ Fuchs, 1870, Denksch. K. Akad. Wissen. Wien, v. 30, p. 204, pl. 9, figs. 24, 25; Eocene, Italy [see _defensus_ Fuchs, ? n.n.]. _PTERYNOTUS_

CRASSIVARICOSA Reeve, 1845, Conch. Icon., v. 3, _Murex,_ pl. 9, fig. 33; 1846, Proc. Zool. Soc. London, pt. 13, p. 86; ? Indo-Pacific [? = _maurus_ Broderip]. _CHICOREUS_

crassus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 692; West Atlantic [= _bufo_ Bruguière, both for Chemnitz, v. 4, figs. 1272, 1273]. _MARSUPINA_

crassus A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 269; Japan. _OCENEBRA_

CRATICULATUS Linné, 1758, Syst. Nat., ed. 10, p. 755. [According to Dodge (Bull. Amer. Mus. Nat. Hist., v. 113, p. 189) this species should be considered as a species _dubium_ and the "_craticulatus_ Linné" of authors should be attributed to Dillwyn, 1817. Dillwyn's species is a _Latirus;_ however, "_craticulatus_ Linné" of Brocchi, 1814, is another species and is the type of _Hadriania._ For this latter species see _brocchii_ Monterosato _non_ Cantraine and _Ocenebra_ (_Hadriania_) _craticuloides_ (Vokes), n.n.]

CRAWFORDI G. B. Sowerby III, 1892, Marine Shells So. Africa, p. 2, pl. 1, fig. 2; South Africa. _UROSALPINX_

*CREDNERI Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, p. 218, pl. 26, figs. 16, 17; Miocene, Hungary. _OCINEBRINA_

*CRENATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 442, pl. 10, fig. 2; Mio-Pliocene, Italy. CERITHIIDAE

CRENIFER Montrouzier, 1861, Jour. de Conchyl., v. 9, p. 279, pl. 11, figs. 9, 10; Indo-Pacific. *VITULARIA*

*CRENULATA [*Purpura*] Röding, 1798, Museum Boltenianum, p. 144; Eocene, France & England [? n.n. pro *asper* Solander *in* Brander *non* Linnè; see also *tricarinatus* Lamarck]. *PTERYNOTUS*

*CRIMENSIS Kulitschenko, 1963, Dok. Akad. Nauk. Ukraine, v. 3, p. 98; Oligocene, Crimea.

*CRISPANGULA Heilprin, 1887, Trans. Wagner Free Inst. Sci., v. 1, p. 107, pl. 15, fig. 38; Miocene, Florida. *MUREXIELLA*

crispata [*Purpura*] Röding, 1798, Museum Boltenianum, p. 140 [nude name]

CRISPATUS Holton, 1802, Enum. Syst. Conch. Chemnitz., p. 60, ref. to Chemnitz, v. 11, figs. 1802, 1803; North Pacific [*crispatus* Lamarck, 1816, is the same species; ? = *Buccinum lamellosum* Gmelin]. *NUCELLA*

*CRISPUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 224; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 81, figs. 7-12; Eocene, France. *HEXAPLEX*

crispus Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 176; Peru [see *tortuus* Broderip *in* G. B. Sowerby II; also *multicrispatus* Dunker]. *HEXAPLEX*

*CRISTATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 394, pl. 7, fig. 15; Pliocene, Italy. [This species also occurs in the Recent Mediterranean fauna (see *cataphractus* G. B. Sowerby II) and has been synonymized with *blainvillei,* but the two are distinct.] *MURICOPSIS*

**cristatus* J. Sowerby, 1819, Mineral Conch., v. 3, p. 52, pl. 230, figs. 1, 2; Eocene, England [see *subscristatus* d'Orbigny, n.n.]. *POIRIERIA*

cristatus [Gray *in*] Wood, 1828, Index Test., Suppl., p. 14, pl. 5, fig. 4; ? East Pacific [? = *pinniger* Broderip]. *PURPURELLUS*

CROCATUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 33, fig. 168; 1846, Proc. Zool. Soc. London, pt. 13, p. 108; Australia. *CHICOREUS*

crosseanus "Liénard" von Martyns, 1877, Zool. Rec., v. 12 (1875), p. 152 [err. pro *crossei* Liénard]

CROSSEI Liénard, 1873, Jour. de Conchyl., v. 21, p. 285; 1874, *ibid.,* v. 22, p. 7, pl. 1, fig. 2; Indian Ocean. ? NASSARIIDAE

CROUCHI G. B. Sowerby III, 1894, Proc. Malac. Soc. London, v. 1, p. 41, pl. 4, fig. 9; Mauritius [? = *balteatus* Beck *in* G. B. Sowerby II]. *MUREXIELLA*

*CROWFOOTI S. V. Wood, 1879, Crag Moll., 2d Suppl., *in* Palaeont. Soc., v. 33, p. 15, pl. 1, fig. 15; Pliocene, England. *EUPLEURA*

cubbi "Reeve" Nicklès, 1950, Moll. Test. Marins Occident. Afrique, p. 90, fig. 141 [err. pro *gubbi* Reeve]

CUMINGII A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 270; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 115; Indo-Pacific. *NAQUETIA*

CUNICULOSUS Duchastel *in* Nyst, 1836, Mess. Sci. Artes, Belg., v. 4, p. 176, pl. 3, fig. 92; Oligocene, Germany. *LYROTYPHIS* (type)

curta Monterosato, 1878, Enum. e Sinon., p. 41 [nude name]; *in* Bucquoy, Dautzenberg & Dollfus, 1882, Moll. Mar. Roussillon, v. 1, p. 25, as *aciculatus* var.; Mediterranean [= *subaciculatus* Locard]. *OCINEBRINA*

*CURTUS J. Sowerby, 1818, Mineral Conch., v. 2, p. 227, pl. 119, fig. 5; Eocene, England. ? *PSEUDONEPTUNEA*

*CURVICOSTA Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], fig. 34; Miocene, France. *OCENEBRA*

CURVIROSTRIS Wood, 1818, Index Test., p. 131, ref. to Chemnitz, v. 4, fig. 1748 [err. pro fig. 1478]; Indo-Pacific [? = *aluco* Linné]. *PSEUDOVERTAGUS*

curvirostris Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 26. ? *FASCIOLARIA*

**curvispina* Segre, 1954, Boll. Serv. Geol. Ital., v. 76, p. 54, as *brandaris* var.; Pleistocene, Italy [nude name]. *BOLINUS*

CUSPIDATUS G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 36, fig. 203; Japan. ? *HEXAPLEX*

CUSPIDIFERA Dall, 1924, Proc. Biol. Soc. Washington, v. 37, p. 89; Hawaii. *CORALLIOPHILA*

CUTACEUS Linné, 1767, Syst. Nat., ed. 12, p. 1217; Mediterranean. *CABESTANA* (type)

CUVIERENSIS [*Murexsul*] Finlay, 1927, Trans. New Zealand Inst., v. 57, p. 487, pl. 24, fig. 2; New Zealand [? = *octogonus* Quoy & Gaimard]. *MUREXSUL*

CYACANTHA G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 11, fig. 160; Red Sea [? = *virgineus* Röding]. *CHICOREUS*

*CYCLOPTERUS Millet, 1866, Paléont. Maine et Loire, p. 16; Tournouër, 1875, Jour. de Conchyl., v. 23, pl. 5, fig. 2; Miocene, France. *PURPURELLUS*

CYCLOSTOMA G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 194, fig. 95; 1841, Proc. Zool. Soc. London, pt. 8, p. 146; Indo-Pacific. *FAVARTIA*

CYRILLI Scacchi, 1833, Oss. Zool., v. 2, p. 24. TURRIDAE

*CZJZEKII Hörnes, 1848, Verz. Fossil-reste Wien, p. 18, *in* Czjzek, 1849, Erläut. Geog. Karte [nude name]; *in* Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, pp. 197, 205 [fig'd. in Hörnes, 1856, pl. 23, fig. 8 as *porulosus* Michelotti]; Miocene, Austria. *MUREXSUL*

D

*DAGUINI Magne, 1941, Jour. de Conchyl., v. 84, p. 371; Eocene, France [for *trigonus* Cossmann, 1923, pl. 6, figs. 28, 29, *non* Rouault]. *PTERYNOTUS*

*DALLI Clark, 1915, Univ. Calif. Publ., Bull. Geol., v. 8, No. 22, p. 501, pl. 67, figs. 4, 9; Miocene, California. ? *UROSALPINX*

DAMICORNIS Hedley, 1903, Mem. Australian Mus., v. 4, p. 378, fig. 92; Australia. *CHICOREUS*

*DANCONAE de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 229, as *brandaris* var. (for D'Ancona, 1871, pl. 2, fig. 1); Pliocene, Italy [*anconae* Bellardi does not preoccupy (Code Art. 57d)]. *BOLINUS*

DANILOI [emend.] Monterosato, 1917, Boll. Soc. Zool. Ital., (ser. 3) v. 4, p. 21, as *trunculus* var.; Mediterranean [n.n. pro *falcatus* Danilo & Sandri *non* G. B. Sowerby II; orig. as *danili*]. *HEXAPLEX*

*DANNEBERGI Beyrich, 1854, Zeitsch. Deutsch. Geol. Gesell., v. 6, p. 749; von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, pl. 3, figs. 2, 4, 5; Oligocene, Germany. *HEXAPLEX*

DARROSENSIS E. A. Smith, 1884, Voyage *Alert,* Zool., p. 492, pl. 44, fig. f; Indian Ocean. ? *CORALLIOPHILA*

*DASUS Gardner, 1947, U. S. Geol. Sur., Prof. Paper 142-H, p. 518, pl. 53, fig. 4; Miocene, Florida [? = *gilli* Maury]. *SIRATUS*

*DAUBUISSONIUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 199; ? Pliocene, Italy.

*DAVISI Richards, 1943, Jour. Paleont., v. 17, p. 524, pl. 85, figs. 1, 2; Miocene, North Carolina. *PHYLLONOTUS*

DEARMATUS Odhner, 1922, Göteborgs Kungl. Vet. Vitterhets Sammhalles Handl., (ser. 4) v. 26, No. 7, p. 13, pl. 1, fig. 21; West Africa. ? *PTEROPURPURA*

DECOLLATUS Linné, 1767, Syst. Nat., ed. 12, p. 1226. *CERITHIDEA*

DECORIS [*Phyllonotus*] Keen, 1960, Nautilus, v. 73, p. 107, pl. 10, figs. 4, 5, 7, as *peratus* subsp.; West Mexico. *PHYLLONOTUS*

*DECURRENS [*Fusus*] Grateloup, 1847, Conchyl. Adour, Atlas, Turbinelles, pl. 3 [pl. 24], figs. 43, 44; Oligocene, France. ? *ASPELLA*

decussatus [Lightfoot], 1786, Cat. Portland Mus., p. 96 [nude name]

DECUSSATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3527, ref. to Adanson, pl. 9, fig. 21; West Africa. *JATON* (type)

**decussatus* Grateloup 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 99; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 5; Miocene, France [see *subdecussatus* d'Orbigny, n.n.]. *FAVARTIA*

decussatus Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 31, fig. 153; Indo-Pacific. *MORULA*

*DEFENSUS Fuchs, 1870, Denksch. Akad. Wissen. Wien, v. 30, p. 139 [list only], ref. to pl. 9, figs. 24-26 [in text as *crassisipina,* p. 204]; Eocene, Italy [? n.n. pro *crassispina* Fuchs *non* Lamarck]. *PTERYNOTUS*

*DEFORMIS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 22, pl. 2, figs. 37, 38; Eocene, England. *CLAVALITHES*

*DELAUNAYI Tournouër, 1875, Jour. de Conchyl., v. 23, p. 146, pl. 5, fig. 1; Miocene, France. *PTERYNOTUS*

*DELBOSIANUS Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], figs. 7, 10; Miocene, France. *PTEROPURPURA*

DELGADOI Serradell, 1912, Asoc. Cienc. Nat. Barcelona, v. 1, p. 8, fig. 4, as *brandaris* var.; Mediterranean. *BOLINUS*

DELICATULA [*Bolinus*] Coen, 1925, Boll. R. Com. Talass. Ital., v. 13, p. 6, fig. 2, as *brandaris* var.; Mediterranean. *BOLINUS*

DELICATUS M. Smith, 1940, Nautilus, v. 54, p. 45, as *recurvirostris* var.; West Atlantic [? = *rubidum* Baker]. *MUREX s.s.*

DELLECHIAJE Scacchi, 1832, Lett. Test. Napolitani, p. 5; Mediterranean. ? CERITHIACEA

*DENEGATUS Jung, 1966, Tulane Stud. Geol., v. 4, No. 2, p. 77; Miocene, Venezuela [n.n. pro *triangularis* Jung *non* Brown]. *SIRATUS*

*DENINGERI Martin, 1914, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 2, No. 4, p. 145, pl. 4, figs. 96, 97; Eocene, Java. *HEXAPLEX*

*DENNANTI Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 98, pl. 2, fig. 7; Miocene, Australia. *CHICOREUS*

DENSUS H. & A. Adams, 1853, Genera Rec. Moll., v. 1, p. 75 [n.n. pro *inornatus* A. Adams *non* Récluz]. *HEXAPLEX*

dentatus Burrow, 1815, Elements Conch., p. 180, pl. 23, fig. 2; Indian Ocean [unnecessary n.n. pro *Voluta pyrum* Linné *non Murex pyrum* Linné]. *TURBINELLA*

**dentatus* Brown, 1818, Trans. Roy. Soc. Edinburgh, v. 8, p. 462, pl. 10, fig. 1; ? Pleistocene, France. ? *OCINEBRINA*

dentatus Anton, 1839, Verz. Conch., p. 82.

*DENTICULATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 77, pl. 6, fig. 2; Miocene, Italy. *PTERYNOTUS*

DENTIFER Watson, 1883, Jour. Linn. Soc. London, v. 16, p. 601; Pacific [never figured but type in BM (NH) is similar to *tweedianus* Macpherson]. ? *HAUSTELLUM*

DENUDATA [*Triplex*] Perry, 1811, Conchology, pl. 7, fig. 2; Australia. *CHICOREUS* (type-*Torvamurex* Iredale)

DENUDATA [*Aranea*] Perry, 1811, Conchology, pl. 45, fig. 1; Indo-Pacific. [? = *haustellum* Linné]. *HAUSTELLUM*

**denudatus* Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 601, pl. 81, figs. 4-6; Eocene, France [? = *crenulata* Röding, *tricarinatus* Lamarck]. *PTERYNOTUS*

depauperata Dautzenberg, 1887, Bull. Soc. Études Sci. Paris, Année 9, p. 25 [? of separate], as *erinaceus* var.; East Atlantic. *OCENEBRA*

*DEPAUPERATUS Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 331, pl. 87, figs. 18-20; Eocene, France. BUCCINIDAE

*DEPONTAILLIERI Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 31 [nude name], p. 198, pl. 2, figs. 5, 6; Pliocene, France. *PAZIELLA*

DEPRESSOSPINOSUS Dunker, 1869, Novit. Conch., p. 126, pl. 42, figs. 3, 4; Indo-Pacific [? = *saxicola* Broderip]. *HEXAPLEX*

*DEPRESSUS Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 97; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], fig. 9; Miocene, France. *PTERYNOTUS*

**depressus* Gabor, 1936, Ann. Hist. Nat. Mus. Natl. Hung., v. 30, p. 4, pl. 1, fig. 12, as *sedgwicki* var.; Oligocene, Hungary. *CHICOREUS*

*DERITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 237, as *erinaceus* var. (for Brocchi, 1814, pl. 7, fig. 11); Pleistocene, Italy. *OCENEBRA*

*DERTOBREVIS Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 20, pl. 5, fig. 27, as *brevicanthos* var.; Miocene, Italy. *HEXAPLEX*

*DERTONENSIS Mayer *in* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 107, pl. 7, fig. 12; Miocene, Italy. *UROSALPINX*

*DESHAYESII Duchastel *in* Nyst, 1836, Mess. Sci. Artes Belg., v. 4, p. 175, pl. 2, fig. 90; Oligocene, Germany. *FLEXOPTERON*

*DESLONGCHAMPSI Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 321, pl. 86, figs. 16, 17; Eocene, France. ? *MELONGENA*

despecta [*Purpura*] Röding, 1798, Museum Boltenianum, p. 143 [nude name]

DESPECTUS Linné, 1758, Syst. Nat., ed. 10, p. 754; North Sea. *NEPTUNEA*

**despectus* Michelotti, 1847, Nat. Verh. Hollandsche Maat. Wetensch. Haarlem, (ser. 2) v. 3, No. 2, p. 238, pl. 11, fig. 5; Miocene, Italy [? = *aquitanicus* Grateloup]. *CHICOREUS*

despectus A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 72; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 85 ; Indo-Pacific [? = *brunnea* Link]. *CHICOREUS*

*DETRITUS von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, p. 49, pl. 4, fig. 7; pl. 14, figs. 1-3; Oligocene, Germany. *PTERYNOTUS*

DEVIANS Dautzenberg, 1904, Jour. de Conchyl., v. 52, p. 287, pl. 8, fig. 5, as *brandaris* var.; Mediterranean. *BOLINUS*

DEXTROSUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 61; Adriatic. TRIPHORIDAE

DIADEMA A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 70; Japan. *LATIAXIS*

diadema Aradas & Benoit, 1870, Conch. Viv. Mar. Sicilia, p. 271, pl. 5, fig. 8; Mediterranean [see *aradasii* Monterosato, n.n.]. *CORALLIOPHILA*

DIAPHNUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3529, ref. to Argenville, pl. 16, fig. F; Indo-Pacific [? = *cichoreum* Gmelin]. *HEXAPLEX*

*DIARTI Cossmann, 1903, Jour. de Conchyl., v. 51, p. 153, pl. 6, fig. 6; Pliocene, India. ? *MURICOPSIS*

DICHROUS Tapparone-Canefri, 1880, Ann. Soc. Malac. Belg., v. 15, p. 21, pl. 2, figs. 5, 6; Mauritius. BUCCINIDAE

*DIDERRICHI Vincent, 1913, Ann. Mus. Congo Belge, (ser. 3) v. 1, p. 23, pl. 2, fig. 13; Paleocene, Congo. *HEXAPLEX*

*DIDYMUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 97, pl. 4, fig. 13; Miocene, Australia. *PTERYNOTUS*

DIGITATUS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 198, fig. 114; 1841, Proc. Zool. Soc. London, pt. 8, p. 145; Red Sea. *HOMALOCANTHA*

DILATATA Dautzenberg, 1895, Mém. Soc. Zool. France, v. 8, p. 367, as *trunculus* var.; Mediterranean. *HEXAPLEX*

DILECTUS A. Adams, 1855, Proc. Zool. Soc. London, pt. 23, p. 120; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 60; Gulf of Mexico. *CHICOREUS*

*DILUCIDUS [*Murexsul*] Marwick, 1931, New Zealand Geol. Sur., Paleont. Bull. 13, p. 117, fig. 234; Pliocene, New Zealand. *MUREXSUL*

*DIMIDIATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 431, pl. 8, fig. 18; Miocene, Italy. *SURCULA*

DIOMEDAEUS Dall, 1908, Bull. Harvard Mus. Comp. Zool., v. 43, p. 313, pl. 12, figs. 4, 5; East Pacific. *MUREXIELLA*

DIPLACANTHA Dautzenberg, 1904, Jour. de Conchyl., v. 52, p. 287, pl. 8, fig. fig. 3, as *brandaris* var.; Mediterranean. *BOLINUS*

DIPSACUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 194; G. B. Sowerby II, 1834, Conch. Illus., *Murex*, pl. 60, fig. 20; East Pacific. *MUREXIELLA*

*DISPARATUS Vincent, 1930, Mém. Mus. Hist. Nat. Belg., v. 43, p. 39, pl. 7, fig. 4; Paleocene, Belgium. *HEXAPLEX*

*DISTANS Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 592, pl. 81, figs. 24, 25; Eocene, France. ? *HEXAPLEX*

*DISTINCTUS Cristofori & Jan, 1832, Cat. Mus., Sect. II, Conch. Foss., p. 11; D' Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, pl. 2, fig. 4; Pliocene, Italy. *DERMOMUREX*

*DISTORTUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 399, pl. 9, fig. 8; Pliocene, Italy. *MONOPLEX*

**distortus* Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 599, pl. 82, figs. 15, 16; Eocene, France [see *subdistortus* d'Orbigny, n.n.]. *PTERYNOTUS*

*DJARIANENSIS Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n. s.) v. 1, pt. 5, p. 123, pl. 19, figs. 282-284; Miocene, Java. *MUREX s.s.*

DOLARIUM Linne, 1767, Syst. Nat., ed. 12, p. 1223; Indian Ocean. *CABESTANA*

*DOLIARE Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 398; Pleistocene, Italy [? = *olearium* Linné]. ? *RANELLA*

*DOLIOLUM Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 442, pl. 9, fig. 10; Pliocene, Italy. CERITHIACEA

dolium Fischer de Waldheim, 1807, Mus. Demidoff, v. 3, p. 200; Indo-Pacific [= *Buccinum scala* Gmelin, both for Martini, v. 3, fig. 1089]. *TROCHIA*

DOLLFUSI Lamy, 1938, Mém. Inst. Egypte, v. 37, p. 54, fig. 1; Mediterranean. *OCENEBRA*

*DOMINGENSIS G. B. Sowerby I, 1850, Quart. Jour. Geol. Soc. London, v. 6, p. 49, pl. 10, fig. 5; Miocene, Dominican Republic. *SIRATUS*

*DOMINICENSIS [*Trophon*] Gabb, 1873, Trans. Amer. Phil. Soc., (n. s.) v. 15, p. 202; Pilsbry, 1922, Proc. Acad. Nat. Sci. Phila., v. 73, pl. 28, figs. 2, 3 (holotype); Miocene, Dominican Republic. *PAZIELLA*

DONMOOREI Bullis, 1964, Tulane Stud. Zoology, v. 11, No. 4, p. 101, figs. 1, 2; West Atlantic. *MUREX s.s.*

*DORMANI E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 156, pl. 2, fig. 3; Oligocene, Mississippi. *PHYLLONOTUS*

DRACO [*Purpura*] Röding, 1798, Museum Boltenianum, p. 144, ref. to Martini, v. 3, fig. 1033 [? = *elongatus* Lightfoot]. *PTERYNOTUS*

*DUBITALIS [*Poirieria*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 42, pl. 7, fig. 5; Miocene, Mexico. *PANAMUREX*

DUBIUS Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 716 [n.n. pro *asper* Gmelin *non* Linné]. ? *CANTHARUS*

dubius G. B. Sowerby II, 1841, Conch. Illus., *Murex*, p. 8, pl. 61, fig. 23; East Pacific [n.n. pro *aculeatus* Wood *non* Perry; see *zeteki* Hertlein & Strong, n.n.]. *MURICOPSIS*

*DUBUISSONI Vasseur *in* Cossmann, 1897, Moll. Éocén. Loire-Infer., v. 1, fasc. 3, *in* Bull. Soc. Sci. Nat. Ouest France, Nantes. v. 7, p. 325 (139), pl. 7 (12), figs. 3, 4; Eocene, France. *OCINEBRINA*

DUCALIS Broderip & G. B. Sowerby I, 1829, Zool. Jour., v. 4, p. 377; G. B. Sowerby II, 1834, Conch. Illus., *Murex*, pl. 67, fig. 56; East Pacific [? = *brassica* Lamarck]. *PHYLLONOTUS*

DUFFUSI [*Pterochelus*] Iredale, 1936, Rec. Australian Mus., v. 19, p. 323, pl. 23, fig. 11; Australia. *PTEROCHELUS*

*DUFRENOYI Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], fig. 19; Miocene, France. *OCENEBRA*

*DUJARDINI Tournouër, 1875, Jour. de Conchyl., v. 23, p. 151, pl. 5, fig. 4;

Miocene, France [for *erinaceus* Dujardin, 1837, *non* Linné]. *CHICOREUS* (type—*Pirtus* de Gregorio, as *fiatus* de Gregorio)

*DUJARDINI [*Muricopsis*] Peyrot, 1938, Actes Soc. Linn. Bordeaux, v. 89, Suppl., p. 186, pl. 3, figs. 8, 10; Miocene, France [for *inermis* Dujardin, 1837, pl. 19, fig. 10, *non* Philippi]. *MURICOPSIS*

*DUJARDINOIDES E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 155, pl. 1, fig. 3, as *lepidotus* subsp.; Miocene, Florida. *CHICOREUS*

*DUMOSUS de Stefani, 1875, Boll. Soc. Malac. Ital., v. 1, p. 81, pl. 2, fig. 2; Pliocene, Italy. *HEXAPLEX*

DUNKERI Krauss, 1848, Südafrik. Moll., p. 112, pl. 6, fig. 14; South Africa [? = *purpuroides* Dunker *in* Reeve, but not n.n. pro]. *TROCHIA*

DUPLEX [*Purpura*] Röding, 1798. Museum Boltenianum, p. 141, ref. to Martini, v. 3, figs. 1013, 1014; West Africa [= "*saxatilis*" of authors *non* Linné]. *HEXAPLEX*

DUPLICATUS Donovan, 1804, Brit. Shells, v. 5, errata (for "*M. antiquus*" pl. 119); England. *NEPTUNEA*

duplicatus Pusch, 1837, Polens Paläont., p. 135, pl. 12, fig. 1; Indo-Pacific [= *trapa* Röding, both for Martini, v. 3, figs. 1055, 1056]. *MUREX s.s.*

duplicatus "Chemnitz" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 98; Indo-Pacific ["*Murex tribulus duplicatus*" Chemnitz, v. 11, figs. 1821, 1822, = *pecten* Lightfoot, also *triremis* Perry, and *tenuispina* Lamarck]. *MUREX s.s.*

*DUPONTI [*Fusus*] Nyst, 1878, Ann. Mus. Roy. Hist. Nat. Belg., Sér. Paléont., v. 3, p. 5, pl. 28, fig. 7; Pliocene, Belgium [text dated 1881, plates dated 1878, with species inadvertently named as *Fusus*]. *TROPHON*

DUTHIERSI Vélain, 1877, Arch. Zool. Expér. Gén., v. 6, p. 98, pl. 2, figs. 1, 2; Indian Ocean. ? *UROSALPINX*

*DYSCRITUS Cossmann, 1889, Cat. Illus. Coq. Foss. Paris, v. 4, p. 127, pl. 4, fig. 17; Eocene, France. *MUREXSUL*

E

EBURNEUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3564, ref. to Chemnitz, v. 9, fig. 899. ? *MITRELLA* [? pathologic — sinistral shell]

eburneus Costa, 1829, Cat. Test. Sicilie, p. 91; Mediterranean.

ECAUDATA [*Bolinus*] Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 166, pl. 5, fig. 54, as *brandaris* var.; Adriatic. *BOLINUS*

*ECHINATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 423, pl. 8, fig. 3; Pleistocene, Italy. ? *RAPHITOMA*

echinatus Wood, 1828, Index Test., Suppl., p. 14, pl. 5, fig. 6; ? Indo-Pacific [? = *Clavus flammulatus* Montfort]. *CLAVUS*

*ECHINOPHORUS [*Murexsul*] Powell & Bartrum, 1929, Trans. New Zealand Inst., v. 60, p. 435, figs. 91, 92; Miocene, New Zealand. *MUREXSUL*

ECHINUS [*Boreotrophon*] Dall, 1920, Proc. U.S. Nat. Mus., v. 54, p. 232; Kira, 1962, Shells Western Pacific, v. 1, pl. 25, fig. 5; Japan. ? *POIRIERIA*

*EDENTULA Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 18, as *vitulinus* var.; Miocene, France [? = *linguabovis* Basterot]. *VITULARIA*

EDNAE M. Smith, 1940, Nautilus, v. 54, p. 43, pl. 2, fig. 10; Japan [?? = *octogonus* Quoy & Gaimard]. *MUREXSUL*

*EFFOSUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 18, pl. 1, fig. 28; Eocene, England. *RIMELLA*

*EGAMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 230, as *brandaris* var.; Pliocene, Italy. *BOLINUS*

*EGERENSIS Gabor, 1936, Ann. Hist. Nat. Mus. Natl. Hung., v. 30, p. 3, pl. 1, fig. 10; Oligocene, Hungary. ? *CHICOREUS*

EGINEUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 59; Adriatic. TURRIDAE

*EJECTUS Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 1, pt. 5, p. 125, pl. 19, fig. 287; Pliocene, Java. *MUREX s.s.*

*ELATIOR von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, p. 64, pl. 3, fig. 3 [not fig. 2 as stated]; Oligocene, Germany. _HEXAPLEX_

*ELATOSPIRA Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine _in_ Actes Soc. Linn. Bordeaux, v. 75, p. 133, pl. 15, figs. 36, 37; Miocene, France. ? _MURICOPSIS_

*ELATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 96, pl. 7, fig. 4; Miocene, Italy. _MURICOPSIS_

*ELDRIDGEI Arnold, 1907, Proc. U.S. Nat. Mus., v. 32, p. 537, pl. 50, fig. 12; Pliocene, California. _MAXWELLIA_

*ELECTUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 127, pl. 8, fig. 19; Miocene, Italy. _OCINEBRINA_

ELEGANS Donovan, 1804, Brit. Shells, v. 5, pl. 179, fig. 3; England. _CIRILLIA_

*_elegans_ [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 141; Oligocene, Germany. TURRIDAE

elegans Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 8. TURRIDAE

elegans Beck _in_ G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 192, fig. 84; 1841, Proc. Zool. Soc. London, pt. 8, p. 140; West Atlantic [see _perelegans_ Vokes, n.n.]. _SIRATUS_

*_elegans_ Michelotti, 1841, Monografia _Murex,_ p. 15; Miocene, Italy [see _becki_ Michelotti, n. n.]. _CORALLIOPHILA_

ELEGANS [_Aspella_] Perrilliat Montoya, 1971, Paleontologia Mexicana, No. 32, p. 83; West Atlantic [n.n. pro _intermedius_ Adams; see also _alveatus_ Kiener]. _CARIBIELLA_ (type)

*ELEGANTISSIMUS Aldrich, 1895, Bull. Amer. Paleont., v. 1, No. 2, p. 13, pl. 4, fig. 3; Eocene, Alabama. _ENDOPACHYCHILUS_

*ELEGANTULA Harmer, 1918, Pliocene Moll. Gt. Brit., v. 1, pt. 3, _in_ Palaeont. Soc., v. 70, p. 340, pl. 35, fig. 20; Pliocene, England. _PTEROCHELUS_

ELENENSIS Dall, 1909, Proc. U.S. Nat. Mus., v. 37, p. 218; East Pacific [n.n. pro _plicatus_ G. B. Sowerby II _non_ Gmelin]. _MUREX s.s_

*_elingus_ de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 245, as _craticulatus_ Brocchi var. (for Hörnes, 1856, pl. 25 [err. pro pl. 24], figs. 9, 10); Miocene, Austria [= _ergnapus_ de Gregorio (also for fig. 9); = _catosus_ de Gregorio (also for fig. 10)]. _OCINEBRINA_ + _HADRIANIA_

ELIZABETHAE [_Aspella_] McGinty, 1940, Nautilus, v. 53, pl. 10, fig. 7; v. 54, p. 63; West Atlantic. _DERMOMUREX_

elongata [_Purpura_] Röding, 1798, Museum Boltenianum, p. 141 [nude name]

elongata [_Purpura_] Link, 1807, Samml. Univ. Rostock, v. 2, p. 121 [=_carneola_ Röding, both for Martini, v. 3, figs. 995-997; ? = _saulii_ G. B. Sowerby II]. _CHICOREUS_

elongata Monterosato, 1878 Enum. e. Sinon, p. 41, as _aciculatus_ var.; Mediterranean [nude name]. _OCINEBRINA_

*_elongata_ Stchepinsky, 1938, Soc. Géol. France, Mém. 37, (n.s.) v. 16, p. 76, pl. 7, fig. 22, as _trunculus_ var.; Miocene, Tunisia. _HEXAPLEX_

ELONGATUS [Lightfoot], 1786, Cat. Portland Mus., p. 65, ref. to Favanne, pl. 97, fig. H; Indo-Pacific. _PTERYNOTUS_ (type — _Marchia_ Jousseaume, as _clavus_ Kiener)

elongatus Lamarck, 1822, Anim. s. Vert., v. 7, p. 161; Kiener, 1842, Coq. Viv., v. 7, pl. 15, fig. 1; pl. 16, fig 1; Indo-Pacific [see _asianus_ Kuroda, n.n.]. _CHICOREUS_

*_elongatus_ Woodward, 1833, Geology of Norfolk, p. 45, pl. 3, fig. 22; Pleistocene, England [? = _Buccinum lapillus_ Linné]. _NUCELLA_

*_elongatus_ Görges, 1941, Decheniana, v. 100A, p. 121, pl. 1, fig. 1, as _deshayesii_ var.; Oligocene, Germany [? = _multivaricosus_ Görges]. _TROPHON_

*ELTUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 264, as _trunculus_ var.; Miocene, Italy. _HEXAPLEX_

EMARGINATUS Donovan, 1804, Brit. Shells, v. 5, pl. 169, fig. 2; England. TURRIDAE *emarginatus* G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 193, figs. 98, 100; 1841, Proc. Zool. Soc. London, pt. 8, p. 143; Japan [? = *fournieri* Crosse]. *CERATOSTOMA*

*EMBRYOLIRATUS Fischer, 1921, Centrabl. Min., Stuttgart, (1921), p. 246; 1927, Paläont. Timor, v. 15, p. 78, pl. 208, figs. 50, 51; Pliocene, Timor. *MUREX s.s.*

*EMMAE [*Ranella*] Boettger, 1901, Verh. Mitt. Siebend. Ver. Naturw. Hermannstadt, v. 51, p. 26; Zilch, 1934, Senckenbergiana, v. 16, pl. 14, fig. 72 (holotype); Miocene, Romania. *ASPELLA*

*EMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 256, as *cristatus* Brocchi var. (for Hörnes, 1856, pl. 25, fig. 6); Miocene, Austria. *MURICOPSIS*

endermonensis G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 47; Japan [in synonymy of *acanthophorus* Adams; ? = *acanthophorus* Adams]. *OCINEBRELLUS*

ENDERMONIS E. A. Smith, 1875, Ann. Mag. Nat. Hist., (ser. 4) v. 15, p. 420; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 213; Japan. *OCENEBRA*

endeva "Lamarck" Swainson, 1840, Treatise Malac., p. 296 [err. pro *endivia* Lamarck, ref. to Martini, figs. 107, 108, err. pro 1007, 1008]

endivia Lamarck, 1822, Anim. s. Vert., v. 7, p. 168, ref. to Martini, v. 3, fig. 1008; Indo-Pacific [= *cichoreum* Gmelin]. *HEXAPLEX*

*ENGONATUS Conrad, 1833, Foss. Shells North Amer., v. 1, No. 3, p. 30 [stated to be illustrated on pl. 16, fig. 2, but plates not included with this publication; republished in 1835 and *engonatus* not included]; 1865, Amer. Jour. Conch., v. 1, No. 3, pl. 20, fig. 10; Eocene, Alabama. *HEXAPLEX*

*ENGONATUS [*Trophon*] Dall, 1892, Trans. Wagner Free Inst. Sci., v. 3, pt. 2, p. 243, pl. 13, fig. 6a; Pliocene, Florida. *DERMOMUREX*

EOS Hutton, 1873, Cat. Marine Moll. New Zealand, p. 8; Finlay, 1927, Trans. New Zealand Inst., v. 57, pl. 19, fig. 55; New Zealand. *PTEROCHELUS*

EPIDAURUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 57; Adriatic.

EPITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 260, as *trunculus* var.; Mediterranean. *HEXAPLEX*

*ERCUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 262, as *trunculus* var.; Neogene, Italy. *HEXAPLEX*

*ERGNAPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 245, as *craticulatus* Brocchi var. (for Hörnes, 1856, pl. 25 [err. pro pl. 24], fig. 9); Miocene, Austria. *OCINEBRINA*

ERINACEOIDES Valenciennes, 1832, Coq. Univalves l'Amér. Equinoxiale, p. 302; Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, pl. 4, fig. 3 (holotype); East Pacific. *PTEROPURPURA*

ERINACEUS Linné, 1758, Syst. Nat., ed. 10, p. 748; Mediterranean. *OCENEBRA* (type)

erithrostomus Dufo, 1840, Ann. Sci. Nat., (ser. 2) v. 14, p. 56 [also spelled as *erythrostomus,* p. 57]; Indian Ocean [preoccupied by *erythrostomus* Swainson, Code Art. 58-2; ? = *brunnea* Link]. *CHICOREUS*

EROSUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 174; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 60, fig. 16; East Pacific. *CARIBIELLA*

**erpis* de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 245, as *craticulatus* Brocchi var. (for Hörnes, 1856, pl. 25 [err. pro pl. 24], fig. 11); Miocene, Austria [= *perisus* de Gregorio, both for same Hörnes fig.] *HADRIANIA*

erroneus Monterosato *in* Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, p. 123; Mediterranean [n.n. pro *acanthophorus* Monterosato, which was a nude name as is *erroneus* unless subsequently validated, not found]. *OCINEBRINA*

erycina G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* pp. 44, 46 [nude name, or possibly err. pro *erinaceoides* Valenciennes]

ERYTHRAEUS Fischer, 1870, Jour. de Conchyl., v. 18, p. 176; Red Sea [? = *virgineus* Röding]. *CHICOREUS*

erythrostoma Swainson, 1840, Treatise Malac., p. 296 [= *haustellum* Linné]. *HAUSTELLUM* (type — *Haustellaria* Swainson)

ERYTHROSTOMUS Swainson, 1831, Zool. Illus., (ser. 2) v. 2, pl. 73; East Pacific. *PHYLLONOTUS*

*ESCIUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 263, as *trunculus* var. (for D'Ancona, 1871, pl. 4, fig. 5); Pliocene, Italy. *HEXAPLEX*

*ESPINOSUS Hutton, 1886, Trans. New Zealand Inst., v. 18, p. 333; 1893, Pliocene Moll. New Zealand, pl. 6, fig. 3; Plio-Pleistocene, New Zealand. *MUREXSUL*

espinosus Macpherson, 1959, Mem. Natl. Mus., Melbourne, No. 24, p. 51, fig. 1; Australia [see *tweedianus* Macpherson, n.n.]. *HAUSTELLUM*

*ESPITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 276, as *swainsoni* var. (for Hörnes, 1856, pl. 25, fig. 13); Miocene, Austria. *PTERYNOTUS*

*ESPLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 264, as *trunculus* var. (for Hörnes, 1856, pl. 51, fig. 6; Bellardi, 1872, pl. 7, fig. 1); Miocene, Italy & Austria. *HEXAPLEX*

*ESPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 260, as *trunculus* var.; Pliocene, Italy. *HEXAPLEX*

ESYCHUS Dall, 1925, Proc. U.S. Nat. Mus., v. 66, p. 21, pl. 32, fig. 9; pl. 33, fig. 6; Japan. *PTEROPURPURA*

*ETHERINGTONI [*Hexaplex*] E. H. Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, p. 102, pl. 4, fig. 2; Miocene, Colombia. *HEXAPLEX*

EURACANTHUS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 268; Indo-Pacific [for *noduliferus* Reeve, 1845, pl. 31, fig. 150, *non* G. B. Sowerby II]. *SPINIDRUPA* (type)

EURYPTERON Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 34, fig. 176; 1846, Proc. Zool. Soc. London, pt. 13, p. 109; Japan [? = *falcatus* G. B. Sowerby II]. *OCINEBRELLUS* (type)

EURYSTOMUS Swainson, 1833, Zool. Illus., (ser. 2) v. 3, pl. 100 [spelled *euristomus* on plate]; West Africa [? = *duplex* Röding]. *HEXAPLEX* (type — *Muricanthus* Swainson)

*EXAQUITANICUS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 124, pl. 18, fig. 15, as *dujardini* var.; Miocene, France. *CHICOREUS*

*EXARMATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 46, pl. 4, fig. 3; Miocene, Italy [for *grateloupi* Michelotti, 1861, *non* d'Orbigny]. ? *BOLINUS*

EXASPERATUS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 268.

EXCAVATUS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 269.

*EXCISUS Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 100; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 19; Miocene, France. *PTERYNOTUS*

*EXGRANULOSA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 21, as *granuliferus* var. (for Bellardi, 1872, pl. 6, fig. 4); Miocene, Italy. *CHICOREUS*

**exhexagonus* [*Muricopsis*] Vredenberg, 1925, Mem. Geol. Sur. India, v. 50, p. 220; Tertiary, East Indies [unnecessary n.n. pro *Fusus hexagonus* J. de C. Sowerby *non Murex hexagonus* Gmelin; see *subhexagonus* d'Orbigny]. ? *CANTHARUS*

EXIGUUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; G. B. Sowerby II, 1834, Conch. Illus., *Murex*, pl. 60, fig. 17; East Pacific. *MUREXIELLA*

**exiguus* Dujardin, 1837, Mém. Soc. Géol. France, v. 2, p. 296, pl. 19, fig. 2; Miocene, France [see *pseudoexiguus* d'Orbigny, n.n.]. ? *POLLIA*

exiguus Kiener, 1842, Coq. Viv., v. 7, p. 97, pl. 46, fig. 3; South Africa [see *kieneri* Reeve, n.n.; see note after *alveatus* Kiener]. ? *MUREXSUL* *exiguus* Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 32, fig. 166; Indo-Pacific [see *mundus* Reeve, n.n.]. *FAVARTIA*

exiguus Garrett, 1857, Proc. Calif. Acad. Sci., v. 1, p. 102; Hawaii [see *garrettii* Pease, n.n.]

EXILIS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 120.

EXILIS [*Purpura*] Link, 1807, Samml. Univ. Rostock, v. 2, p. 121.

*EXIMIUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 81, pl. 6, fig. 7; Pliocene, Italy. *CHICOREUS*

eximius Brazier, 1877, Proc. Linn. Soc. New South Wales, v. 1, p. 170; Australia [? = *aduncospinosus* Beck *in* G. B. Sowerby II]. *MUREX s.s.*

*EXOLETUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 63, pl. 4, fig. 12; Miocene, Italy. *OCENEBRA*

*EXORTUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 20, pl. 2, fig. 32; Eocene, England. *SURCULA*

EXPANSUS G. B. Sowerby II, 1860, Proc. Zool. Soc. London, pt. 27, p. 428, pl. 49, fig. 5; China. *PTERYNOTUS*

*EXPUNGANS de Gregorio, 1899, Ann. Géol. Paléont., livr. 24, p. 4, pl. 1, fig. 5; Eocene, Italy. ? *MUREXSUL*

EXQUISITUS G. B. Sowerby III, 1904, Proc. Malac. Soc. London, v. 6, p. 176, text fig.; ? Indo-Pacific. *SUBPTERYNOTUS*

*EXSTATUS Rovereto, 1914, Studi Fauna Olig. Liguria, p. 134, pl. 2, fig. 3; Oligocene, Italy.

EXTRANEUS [*Torvamurex*] Iredale, 1936, Rec. Australian Mus., v. 19, p. 324, pl. 23, fig. 12; Australia [? = *territus* Reeve]. *CHICOREUS*

*EXTRINODOSUS Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 19; Pliocene, Australia [n.n. pro *trinodosus* Tate *non* Bellardi]. *PTEROCHELUS*

*EYMARI Cuvillier, 1935, Mém. Inst. Egypte, v. 28, p. 62, pl. 5, fig. 7; Eocene, Egypt.

*EYREI Tenison-Woods, 1877, Proc. Roy. Soc. Tasmania, (1876), p. 93; Tate, 1888, Proc. Roy. Soc. So. Aust., v. 10, pl. 4, fig. 8; Miocene, Tasmania. *PAZIELLA*

*EZGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 271, as *foliosus* var.; Miocene, France. *CHICOREUS*

F

*FACETUS E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 157, pl. 2, fig. 4, as *macgintyi* subsp.; Miocene, Florida, North Carolina, and New Jersey. *MUREXIELLA*

FALCATIFORMIS Thiele, 1925, Wiss. Ergebn. Deutsch. Tiefsee-Exped., v. 17, No. 2, p. 168, pl. 18, fig. 10; Indo-Pacific. *PAZINOTUS*

FALCATUS G. B. Sowerby II, 1834, Conch. Illus., *Murex*, pl. 62, fig. 31; 1841, Proc. Zool. Soc. London, pt. 8, p. 145; Japan. *OCINEBRELLUS* (type, as *eurypteron* Reeve)

falcatus Danilo & Sandri, 1856, Gastrop. Test. Maritimi, v. 2, p. ? [not seen, *fide* Brusina, 1866, Vehr. K. K. Zool. Bot. Gesell. Wien, v. 16, p. 63]; Mediterranean [see *daniloi* Monterosato, n.n.; ? = *trunculus* Linné]. *HEXAPLEX*

FALLAX E. A. Smith, 1901, Jour. of Conch., v. 10, p. 113, pl. 1, fig. 1; South Africa. *HAUSTELLUM*

fasciata [*Aranea*] Perry, 1811, Conchology, pl. 46, fig. 1 [? = *messorius* G. B. Sowerby II]. *MUREX s.s.*

fasciata Dautzenberg, 1887, Bull. Soc. Études Sci. Paris, Année 9, p. 25 [? of separate], as *erinaceus* var.; East Atlantic. *OCENEBRA*

FASCIATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3528, ref. to Knorr, pt. 6, pl. 40, fig. 6; Indo-Pacific [? = *cichoreum* Gmelin]. *HEXAPLEX*

fasciatus Gmelin, 1791, Syst. Nat., ed. 13, p. 3561, ref. to Lister, pl. 121, fig. 16; Africa [? = *fuscatus* Linné]. *TYMPANOTONOS* *fasciatus* Risso, 1826, Hist. Nat. Europe, v. 4, p. 193; Mediterranean [? = *trunculus* Linné]. *HEXAPLEX*

fasciatus "Risso?" G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 192, fig. 86; 1841, Proc. Zool. Soc. London, pt. 8, p. 144; West Africa [see *Ocenebra inermicosta* (Vokes), n.n.]. *OCENEBRA* (type — *Inermicosta* Jousseaume)

*FASCIOLARIUS [*Fusus*] Grateloup, 1847, Conchyl. Adour, Atlas, Turbinelles, pl. 2 [pl. 23], fig. 9; Miocene, France [see *borsoni* Michelotti, 1847, not known which name is older]. *BOLINUS*

*FASCISTRIA von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, p. 71, pl. 3, figs. 9, 10; Oligocene, Germany. ? *PTERYNOTUS*

FAUROTI [*Homalocantha*] Jousseaume, 1888, Mém. Soc. Zool. France, v. 1, p. 180; Vignon, 1931, Jour. de Conchyl., v. 75, pl. 2, fig. 10; Red Sea. *HOMALOCANTHA*

*FELICIENSIS Almera & Bofill, 1898, Bol. Com. Mapa Geol. España, (ser. 2) v. 4, p. 9, pl. 11, fig. 7; Pliocene, Spain [an indeterminable juvenile shell]

FEMORALE Linné, 1758, Syst. Nat., ed. 10, p. 749; Caribbean. *CYMATIUM* (type)

fenestella Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 123; Indo-Pacific [= *martinetana* Röding & *fenestratus* Dillwyn, all for Chemnitz, v. 10, figs. 1536, 1537]. ? *PTERYNOTUS*

fenestratus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 716; Indo-Pacific [= *martinetana* Röding, both for Chemnitz, v. 10, figs. 1536, 1537.] ? *PTERYNOTUS*

FERRUGINEUS Eschscholtz, 1829, Zool. Atlas, v. 2, p. 10, pl. 9, fig. 2; North Pacific. *BOREOTROPHON*

FERRUGO Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 16; Red Sea [? = *virgineus* Röding]. *CHICOREUS*

FESTIVUS Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 127; 1844, Voyage *Sulphur,* Zool., Moll., pl. 3, figs. 13, 14; California. *PTEROPURPURA* (type — *Shaskyus* Burch & Campbell)

*FIATUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 257 (for Tournouër, 1875, Jour. de Conchyl., v. 23, pl. 5, fig. 4a); Miocene, France [? = *dujardini* Tournouër]. *CHICOREUS* (type — *Pirtus* de Gregorio)

FICOIDES Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 99.

*FICULNEUS Holton, 1802, Enum. Syst. Conch. Chemnitz., p. 62, ref. to Chemnitz, v. 10 [err. pro v. 11], figs. 2004 [err. pro 3004], 3005; Eocene, France [*Fusus ficulneus* Lamarck, 1803, is same species]. *STREPSIDURA* (type, as *costata* Swainson)

FICUS Linné, 1758, Syst. Nat., ed. 10, p. 752; Indo-Pacific. *FICUS* (type, as *communis* Röding)

ficus Gmelin, 1791, Syst. Nat., ed. 13, p. 3545, ref. to Martini, v. 3, fig. 741; ? Red Sea. *VOLEMA*

*FILIGRANA Edwards *in* von Koenen, 1867, Paleontographica, v. 16, p. 147, pl. 12, fig. 1; Eocene, England; Oligocene, Germany. *PTERYNOTUS*

**filigranosus* Edwards *in* Newton, 1891, Edwards Coll. Brit. Olig. Eocene Mollusca, p. 149; Eocene, England [nude name, see *filigrana* Edwards *in* von Koenen]. *PTERYNOTUS*

*FILOSUS Gené *in* Bellardi & Michelotti, 1841, Mem. R. Accad. Sci. Torino, (ser. 2) v. 3, p. 128, pl. 3, figs. 1, 2 [as separate: Saggio Orittografico Terr. Terz. Piemonte, ? 1840, p. 36]; Miocene, Italy [? = *bicaudatus* Borson]. *OCINEBRINA*

*FIMBRIATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 419, pl. 8, fig. 8; Pliocene, Italy. ? *PLEUROPLOCA*

fimbriatus Lamarck, 1822, Anim. s. Vert., v. 7, p. 176; Australia [?? = *planiliratus* Reeve]. ? *MUREXSUL*

**fimbriatus* DeFrance, 1827, Dict. Sci. Nat., v. 45, p. 547; Miocene, France.

**fimbriatus* Swainson *in* Michelotti, 1841, Monografia *Murex,* p. 9; Mio-

Pliocene, Central Europe [see *swainsoni* Michelotti, "new name;" species never described by Swainson]. *PTERYNOTUS*

fimbriatus A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 71; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 215; Gulf of California [? = *santarosana* Dall]. *MUREXIELLA*

FINLAYI Clench, 1955, Harvard Mus. Comp. Zool., Breviora, No. 44, p. 1, figs. 1-3; West Atlantic [? = *articulatus* Reeve]. *SIRATUS*

FISCELLUM Gmelin, 1791, Syst. Nat., ed. 13, p. 3552, ref. to Chemnitz, v. 10, figs. 1524, 1525; Indo-Pacific. *MORULA*

*FISTULATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 139; Oligocene, Germany [= *Typhis schlotheimi* Beyrich, 1854, unnecessary n.n. pro *fistulatus* Schlotheim *non fistulosus* Brocchi]. *LYROTYPHIS*

fistulatus Risso, 1826, Hist. Nat. Europe, v. 4, p. 191; Mediterranean [? = *Typhis sowerbii* Broderip]. *TYPHINELLUS*

*FISTULOSUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 394, pl. 7, fig. 12; Pliocene, Italy. *SIPHONOCHELUS*

FLAVICUNDA [*Triplex*] Perry, 1810, Arcana, pl. 25; 1811, Conchology, pl. 6, fig. 2; East Africa [? = *brunnea* Link, form with yellow aperture]. *CHICOREUS*

FLAVIDUS Jousseaume, 1874, Rev. Mag. Zool., (ser. 3) v. 2, p. 8, pl. 1, figs. 7, 8 [named *rusticus* on plate]. *OCENEBRA*

FLAVUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 119.

*FLEMINGI [*Pterynotus*] Beu, 1967, Trans. Roy. Soc. New Zealand, Geology, v. 5, p. 102, pl. 1, fig. 9; Pliocene, New Zealand. *PTERYNOTUS*

*FLEXICAUDA Bronn, 1828, Zeitsch. Min., pt. 2, p. 534; Pliocene, Italy. *ENGINA*

FLEXIROSTRIS Melvill, 1898, Mem. Manchester Soc., v. 42, No. 4, p. 19, pl. 1, fig. 11; Indian Ocean. ? *OCENEBRA*

FLEXUOSA [*Triplex*] Perry, 1811, Conchology, pl. 7, fig. 1; Indo-Pacific [? = *triqueter* Born]. *NAQUETIA*

*FLEXUOSUS Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 326, pl. 88, figs. 4, 5; Eocene, France. *MUREXSUL*

FLORIDANA [*Urosalpinx*] Conrad, 1869, Amer. Jour. Conch., v. 5, p. 106, pl. 12, fig. 4; Gulf of Mexico [? = *ostrearum* Conrad]. *CALOTROPHON* (type — *Pseudosalpinx* Olsson & Harbison)

*FLORIDANUS [*Chicoreus*] E. H. Vokes, 1965, Tulane Stud. Geol., v. 3, No. 4, p. 189, pl. 3, figs. 1-3; Mio-Pliocene, Florida & Carolinas. *CHICOREUS*

FLORIFER Reeve, 1846, Conch. Icon., v. 3, *Murex,* pl. 36, fig. 188; West Atlantic. *CHICOREUS*

*FLUCTUOSUS Forbes, 1846, Trans. Geol. Soc. London, (ser. 2) v. 7, p. 126, pl. 13, fig. 19; Cretaceous, India. ? *FUSINUS*

FLUVIATILIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3562, ref. to Lister, pl. 122, fig. 20; ? Senegal. *TYMPANOTONOS*

*FODICATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 124, pl. 8, fig. 13; Miocene, Italy. *CORALLIOPHILA*

FOLIACEA [*Hexaplex*] Perry, 1811, Conchology, pl. 8, fig. 4; Indo-Pacific [? = *cichoreum* Gmelin]. *HEXAPLEX* (type)

*FOLIACEUS Melleville, 1843, Ann. Sci. Géol., v. 2, p. 115, pl. 9, figs. 4-6; Eocene, France. *MUREXSUL*

**foliaceus* Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 324, pl. 87, figs. 27-30; Eocene, France [? = *fraterculus* Deshayes, also *jucundus* Deshayes]. *MUREXSUL*

FOLIATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3529, ref. to Martyn, pl. 66; Northeast Pacific. *CERATOSTOMA*

FOLIATUS [*Triplex*] Perry, 1810, Arcana, pl. 23; Indo-Pacific [*rosaria*

Perry and *palmarosae* Lamarck are the same species[4]. *CHICOREUS* (type — *Triplex* Perry)

foliatus Schumacher, 1817, Essai Vers Test., p. 215, ref. to Chemnitz, v. 4, fig. 1297; Chile [? = *Buccinum geversianum* Pallas]. *TROPHON*

foliatus Lesson, 1844, Écho Monde Savant, v. 11, No. 23, p. 538; East Pacific.

*FOLIDODES Gardner, 1947, U. S. Geol. Sur., Prof. Paper 142-H, p. 520, pl. 53, fig. 5; Miocene, Florida. *PHYLLONOTUS*

folii "Coen" Salisbury, 1934, Zool. Rec., v. 70 (1933), Moll. p. 69 [err. pro *polii* Coen]

FOLINEAE delle Chiaje, 1828, Mem. Anim. s. Vert. Napoli, v. 3, p. 222; Adriatic.

*FOLIOSUS Bonelli *in* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 80, pl. 6, fig. 5 [often cited as Sismonda, 1847, but nude name there]; Pliocene, Italy. *CHICOREUS*

FONTAINEI Tryon, 1880, Man. Conch., v. 2, p. 126, pl. 35, figs. 384, 385; Peru [n.n. pro *monoceros* d'Orbigny *non* G. B. Sowerby II]. *OCENEBRA*

*FONTANNESI de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 242, as *craticulatus* Brocchi var. (for Fontannes, 1879, pl. 2, fig. 1); Pliocene, France. *HADRIANIA*

foraminiferus Tapparone-Canefri *in* Kobelt, 1877, Jahr. Deutsch. Malak. Gesell., v. 4, p. 249; Red Sea [in synonymy of *cyclostoma* G. B. Sowerby II]. *FAVARTIA*

FORCEPS Perry, 1811, Conchology, pl. 2, fig. 4; ? Indo-Pacific [? = *colus* Linné]. *FUSINUS*

*FORESTII de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 248, as *truncatulus* var.; Pliocene, Italy. *HEXAPLEX*

FORMOSUS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 197, fig. 112; 1841, Proc. Zool. Soc. London, pt. 8, p. 139; West Atlantic [*antillarum* Hinds ? is the same species, see also *rarispina* Lamarck]. *SIRATUS*

**formosus* Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, pl. 87, figs. 21-23; Eocene, France [changed to *jucundus* in text, p. 325]. *MUREXSUL*

*FORNISETAE Oppenheim, 1901, Palaeontographica, v. 47, p. 219, pl. 15, fig. 11; Eocene, Italy. *PTERYNOTUS*

forskoehlii Röding, 1798, Museum Boltenianum, p. 145 [= *tribulus Linné*]. *MUREX s.s.*

FORTIS Risso, 1826, Hist. Nat. Europe, v. 4, p. 195, pl. 7, fig. 100; Mediterranean [? = *blainvillei* Payraudeau]. *MURICOPSIS*

FORTISPINA Francois, 1891, Arch. Zool. Expér. Gén., (ser. 2) v. 9, p. 240, text fig. p. 241; Indo-Pacific [? = *ramosus* Linné]. *CHICOREUS*

*FOSSILIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3555, ref. to Chemnitz, v. 4, figs. 1321, 1322; Eocene, France. ? *COSMOLITHES*

FOURNIERI Crosse, 1861, Jour. de Conchyl., v. 9, p. 352, pl. 16, fig. 7; Japan. *CERATOSTOMA*

FOVEOLATUS Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 127; 1844, Voyage *Sulphur,* Zool., Moll., pl. 3, figs. 15, 16; California. *OCENEBRA*

foveolatus Pease, 1869, Amer. Jour. Conch., v. 5, p. 83, pl. 8, fig. 3; East Pacific [see *peasei* Tyron, n.n.]. *FAVARTIA*

*FRAGILIS Trask, 1855, Proc. Calif. Acad. Sci., v. 1, p. 42; ? Pleistocene, California.

FRAGILIS [*Bolinus*] Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 166, pl. 5, fig. 50, as *brandaris* var.; Adriatic. *BOLINUS*

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[4] While this paper was in press the ICZN ruled, in Opinion 911, June, 1970, to suppress the name *Triplex foliatus* in favor of *Murex palmarosae* Lamarck; however, *Triplex rosaria* Perry is still a senior subjective synonym of *M. palmarosae.*

*FRATERCULUS Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 324 (for Deshayes, 1835, pl. 82, figs. 23-25); Eocene, France [see also *foliaceus* Deshayes and *jucundus* Deshayes]. *MUREXSUL*

*FRAYSSEI Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 121, pl. 18, fig. 13; Miocene, France. *HEXAPLEX*

FRICKI Crosse, 1865, Jour. de Conchyl., v. 13, p. 57; California.

*FRIEDBERGI Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 98; Miocene, Poland [for *delbosianus* Friedberg, 1912, pl. 9, figs. 11, 12, *non* Grateloup]. *PTEROPURPURA*

FRONDOSA [*Triplex*] Perry, 1811, Conchology, pl. 6, fig. 1; Australia [? = *denudata* Perry]. *CHICOREUS*

*FRONDOSUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 244; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 82, figs. 20-22; Eocene, France. *MUREXIELLA*

frondosus "Martini" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 97; Indo-Pacific [= *inflatus* Lamarck, which = *ramosus* Linné]. *CHICOREUS*

FRUTICOSUS Gould, 1849, Proc. Boston Soc. Nat. Hist., v. 3, p. 143; 1852, U.S. Expl. Exped. Wilkes, v. 12, pl. 17, fig. 287; Indo-Pacific [? = *noduliferus* G. B. Sowerby II]. ? *MURICOPSIS*

*FUCHSI Bayan, 1870, Étude Coll. Ecole des Mines, fasc. 1, p. 53; Eocene, Italy [n.n. pro *similis* Fuchs *non* G. B. Sowerby II]. *HEXAPLEX*

FUCUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3538, ref. to Martini, v. 3, figs. 959-962; West Atlantic. *THAIS* (type, as *lena* Röding)

*FUFANUS Fischer, 1921, Centrabl. Min., Stuttgart, (1921), p. 246; 1927, Paläont. Timor, v. 15, p. 79, pl. 208, fig. 52; Pliocene, East Indies. ? *PHOS*

FULGURANS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 121.

fuliginosa [*Purpura*] Röding, 1798, Museum Boltenianum, p. 143 [= *brandaris* Linné]. *BOLINUS*

FULVESCENS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 62, fig. 30; West Atlantic. *HEXAPLEX*

FUMISUGIUM Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 124.

FUNAFUTIENSIS Hedley, 1899, Mem. Australian Mus., v. 3, p. 458, text fig. 35; Indo-Pacific. *PAZINOTUS*

*FUNICULATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 140; Oligocene, Germany. ? FASCIOLARIIDAE

**funiculatus* DeFrance, 1827, Dict. Sci. Nat., v. 45, p. 547; Miocene, France.

funiculatus Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 19, fig. 74; 1846, Proc. Zool. Soc. London, pt. 13, p. 88; West Atlantic [? = *messorius* G. B. Sowerby II]. *MUREX s.s.*

*FUNICULOSUS Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 304, pl. 1, fig. 2; Mio-Pliocene, Italy. *HADRIANIA*

FUNICULUS Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 17; Indo-Pacific. *MORULA*

*FUSATES Harris, 1895, Proc. Acad. Nat. Sci. Phila., v. 47, p. 74, pl. 8, fig. 5; Eocene, Texas. BUCCINIDAE

FUSCA [*Hexaplex*] Perry, 1811, Conchology, pl. 8, fig. 3; Indo-Pacific [? = *scorpio* Linné]. *HOMALOCANTHA*

fusca Dautzenberg, 1887, Bull. Soc. Études Sci. Paris, Année 9, p. 25 [? of separate], as *erinaceus* var.; East Atlantic. *OCENEBRA*

FUSCATUS Linné, 1758, Syst. Nat., ed. 10, p. 755; West Africa. *TYMPANATONOS* (type, as *fluviatilis* Schumacher)

FUSCOFRONDOSA [*Ocinebra*] Schepman, 1911, *Siboga* Exped., v. 49, pt. 1-D, p. 349, pl. 21, fig. 4; Indian Ocean [? = *balteatus* G. B. Sowerby II]. *MUREXIELLA*

FUSCUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3561, ref. to Lister, pl. 120, fig. 15; Indo-Pacific [? =*torulosa* Linné]. *TIARACERITHIUM*

fuscus "Dunker" G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 16

[in synonymy of *despectus* Adams]; Indo-Pacific. [Although cited by several authors this species apparently was never described by Dunker. Specimens in Brit. Mus. (Nat. Hist.) so labeled include both *brunnea* Link and *microphyllus* Lamarck.] *CHICOREUS*

*FUSICAELATUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 244, as *craticulatus* Brocchi var.; Miocene, France ? *OCINEBRINA*

FUSIFORMIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3549, ref. to Adanson, pl. 9, fig. 23; West Africa. ? *OCINEBRINA*

fusiformis Salis, 1793, Reisen Neapel, v. 1, p. 371, ref. to Chemnitz, v. 4, figs. 1349, 1350; ? Indo-Pacific [? = *Fusus filimentosus* Röding]. *PLEUROPLOCA*

fusiformis [*Purpura*] Röding, 1798, Museum Boltenianum, p. 144 [= *ramosus* Linné]. *CHICOREUS*

**fusiformis* Anton, 1839, Verz. Conch., p. 81; Eocene, France. ? *TROPHON*

**fusiformis* Nyst, 1844, Mém. Cour. Acad. Roy. Belg., v. 17, p. 546, pl. 42, fig. 13; Oligocene, Belgium [see *subfusiformis* d'Orbigny, n.n.]. ? *ODONTOPOLYS*

**fusiformis* Muenster *in* Goldfuss, 1844, Petref. German., v. 3, No. 8, p. 26, pl. 172, fig. 14; Jurassic, Germany [= *Fusus munsterianus* d'Orbigny, n.n.]. *DIARTHEMA*

fusiformis A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 268; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex*, fig. 207 [see *Ocenebra infelix* (Fischer-Piette), n.n.]. ? *UROSALPINX*

*FUSINOIDES [*Paziella*] Gardner, 1947, U. S. Geol. Sur., Prof. Paper 142-H, p. 524, pl. 52, figs. 39, 42; Miocene, Florida. *PANAMUREX*

*FUSOIDES Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 315, pl. 87, figs. 11, 12; Eocene, France. *PTERYNOTUS*

*FUSULUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 409, pl. 8, fig. 9; Pliocene, Italy. *ORANIA* (type — *Nemofusus* Cossmann)

**fusulus* Almera & Bofill, 1893, Bol. Com. Mapa Geol. España, v. 19, p. 90, pl. 6, figs. 48, 49, as *craticulatus* Brocchi var.; Pleistocene, Spain. ? *HADRIANIA*

FUSUS Linné, 1758, Syst. Nat., ed. 10, p. 752; Indo-Pacific. *TIBIA* (type, as *insulae-chorab* Röding)

G

*GAASENSIS Tournouër *in* Benoist, 1880, Actes Soc. Linn. Bordeaux, v. 34, p. 158; Oligocene, France. *PTERYNOTUS*

*GABBI [*Poirieria*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 39, pl. 7, fig. 2; Miocene, Dominican Republic. *PANAMUREX*

GALAPAGANUS [*"Murex"*] Emerson & D'Attilio, 1970, Veliger, v. 12, p. 271, pl. 39, figs. 3-6; Galápagos. *PAZIELLA*

*GALICIANUS Hilber, 1882, Abh. K.K. Geol. Reichsanst., v. 7, No. 6, p. 5, pl. 1, figs. 7, 8; Miocene, Poland [? = *confluens* Eichwald]. *OCINEBRINA*

*GALIPPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 266, as *trunculus* var. (for Hörnes, 1856, pl. 51, fig. 4); Pliocene, Italy. *HEXAPLEX*

GALLICA Dollfus, 1926, Jour. de Conchyl., v. 70, p. 98, as *conglobatus* var. (for specimens of *trunculus* Linné of the kind figured by Reeve, 1845, pl. 5, fig. 22b); Mediterranean [? = *trunculus* Linné]. *HEXAPLEX*

GALLINAGO G. B. Sowerby III, 1903, Ann. Mag. Nat. Hist., (ser. 7) v. 12, p. 496; Oyama & Takemura, 1957, The Molluscan Shells, v. 1, pl. 2, fig. 4; 1958, *ibid.* v. 2, pl. 4, fig. 2; Japan. ? *SIRATUS*

GAMBIENSIS Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 16, fig. 65; 1846, Proc. Zool. Soc. London, pt. 13, p. 88; West Africa. *PURPURELLUS* (type)

*GANTENSIS Szots, 1953, Geol. Hungarica, v. 22, p. 62, pl. 6, figs. 3-5; Eocene, Hungary. *PTERYNOTUS*

*GAPILUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 250, as *angulosus* var. (for D'Ancona, 1871, pl. 4, fig. 8); Pliocene, Italy. *JANIOPSIS*

*GAPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 231, as *brandaris* var. (for Hörnes, 1856, pl. 26, figs. 3, 4); Miocene, Austria [see also *subtorularius* Hoernes & Auinger]. *BOLINUS*

*GARDNERAE [*Alectrion*] Dall, 1915, U. S. Nat. Mus., Bull. 90, p. 70; Vokes, 1967, Tulane Stud. Geol., v. 5, No. 3, pl. 2, fig. 7 (holotype); Miocene, Florida [? = *trophoniformis* Heilprin]. *PHYLLONOTUS*

**gardnerae* E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 3, p. 99, pl. 1, fig. 1; Miocene, Florida. [If *Siratus* and *Phyllonotus* are held to be subgenera of *Murex s.s.* or of *Chicoreus,* then *gardnerae* Vokes is a secondary homonym of *gardnerae* Dall; see *juliagardnerae* Vokes, n.n.] *SIRATUS*

GARRETTII Pease, 1868, Amer. Jour. Conch., v. 4, p. 103; Hawaii [n.n. pro *exiguus* Garrett *non* Broderip]

*GASTALDII Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 57, pl. 4, fig. 9; Mio-Pliocene, Italy. *PURPURELLUS*

*GATLIFFI Chapman, 1922, Proc. Roy. Soc. Victoria, (n. s.) v. 35, p. 13, pl. 3, fig. 19; Oligo-Miocene, Australia. ? *FASCIOLARIA*

*GATUNENSIS Brown & Pilsbry, 1911, Proc. Acad. Nat. Sci. Phila., v. 63, p. 354, pl. 26, fig. 2; Miocene, Panama. *PANAMUREX* (type)

gaudioni Monterosato, 1878, Enum. e Sinon., p. 41; Mediterranean [nude name]

*GAUDRYI Fischer & Tournouër *in* Gaudry, 1873, Anim. Foss. Mont Lebéron, p. 118, pl. 16, figs. 1, 2; Miocene, France. *HEXAPLEX*

*GAVARDANENSIS Tournouër *in* Benoist, 1880, Actes Soc. Linn. Bordeaux, v. 34, p. 161 [nude name]; *in* Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 117, pl. 13, fig. 47 ("neotype"); pl. 17, fig. 37 (one of Tournouër's "cotypes"); Miocene, France. [The two specimens figured by Cossmann & Peyrot do not appear to be the same species; if not, then unfortunately the first figure, as "neotype," is the type of the species and Tournouër's specimen is still unnamed.] *HEXAPLEX*

GAZA M. Smith, 1940, Nautilus, v. 54, p. 44, pl. 12, fig. 3; ? West Atlantic [?? = *festivus* Hinds]. *PTEROPURPURA*

*GELERTUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 265, as *trunculus* var.; Pliocene, Italy. *HEXAPLEX*

gemella [*Purpura*] Röding, 1798, Museum Boltenianum, p. 142 [nude name]

GEMMA G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 32, fig. 214; California. *MAXWELLIA* (type)

*GENEI Bellardi & Michelotti, 1841, Mem. R. Accad. Sci. Torino, (ser. 2) v. 3, p. 134, pl. 3, figs. 7, 8 [as separate: Saggio Orittografico Terr. Terz. Piemonte, ? 1840, p. 42]; Miocene, Italy. *CERATOSTOMA*

*GENEVENSIS Pictet & Roux, 1849, Mém. Soc. Phys. H. N. Geneve, v. 12, p. 133, pl. 26, fig. 3; Cretaceous, Switzerland.

*GENICULATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 120, pl. 8, fig. 5; Miocene, Italy. *PSEUDOMUREX*

*GEOFFROYI Rouault, 1850, Mém. Soc. Géol. France, (ser. 2) v. 3, p. 493, pl. 17, fig. 19; Eocene, France. *LYROPURPURA*

GIBBERULA [*Purpura*] Link, 1807, Samml. Univ. Rostock, v. 2, p. 121.

GIBBOSUS Born, 1778, Index Mus. Caes. Vind., p. 325; 1780, Test. Mus. Caes. Vind., p. 321, pl. 11, figs. 12, 13. *CLATHRODRILLIA* (type)

gibbosus Lamarck, 1822, Anim. s. Vert., v. 7, p. 166, ref. to Encycl. Méth., 1816, pl. 418, fig. 1; West Africa [= *jatonus* Lamarck; ? = *decussatus* Gmelin]. *JATON*

GIBBULUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3557, ref. to Knorr, pt. 5, pl. 10, fig. 4; Indo-Pacific. *LATIRUS* (type, as *aurantiacus* Montfort) *gigantea* Pallary, 1900, Jour. de Conchyl., v. 48, p. 280, as *brandaris* var.; Mediterranean [nude name]. *BOLINUS*

GIGAS Born, 1780, Test. Mus. Caes. Vind., p. 325.

gigas Gmelin, 1791, Syst. Nat., ed. 13, p. 3557, ref. to Lister, pl. 931a; ? Indo-Pacific [illustration is clearly *trapezium* Linné, but size cited as "21 pollices" suggests *Fasciolaria gigantea* Kiener]. *PLEUROPLOCA*

*GILLETTEORUM E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 160, pl. 2, fig. 1; Miocene, North Carolina [? = *sexangula* Dall]. *TAKIA*

*GILLI [*Fusus*] Maury, 1910, Bull. Amer. Paleont., v. 4, No. 21, p. 19, pl. 5, fig. 3; Miocene, Florida. *SIRATUS*

GIPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 260, as *trunculus* var.; Mediterranean. *HEXAPLEX*

GIRISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 232, as *brandaris* var.; Mediterranean. *BOLINUS*

*GIRUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 248, as *imbricatus* var. (for D'Ancona, 1871, pl. 6, fig. 1); Pliocene, Italy. ? *OCINEBRINA*

*GISELAE Boettger, 1901, Vehr. Mitt. Siebend. Ver. Naturw. Hermannstadt, v. 51, p. 30; Zilch, 1934, Senckenbergiana, v. 16, pl. 15, fig. 79 (lectotype); Miocene, Romania. *MUREXIELLA*

*GLOBOSA Emmons, 1858, Rept. North Carolina Geol. Sur., p. 247, text fig. 105A; Mio-Pliocene, Florida & Carolinas. *PHYLLONOTUS*

**globosus* Koch & Wieckmann, 1872, Arch. Ver. Naturg. Mecklenburg, v. 25, p. 13, pl. 1, fig. 3; Oligocene, Germany [? = *paucispinatus* Roth v. Telegd]. *BOLINUS*

GLOCKERI Anton, 1839, Verz. Conch., p. 81. ? TROPHONINAE

*GLYPTUS M. Smith, 1938, Nautilus, v. 51, p. 89, pl. 6, fig. 10; Pliocene, Florida. *MUREXIELLA*

GONIOPHORUS Euthyme, 1889, Bull. Soc. Malac. France, v. 6, p. 259, pl. 7, figs. 4, 5; West Africa [? = *angularis* Lamarck]. *HEXAPLEX*

*GONIOSTOMUS Partsch *in* Hörnes, 1853, Foss. Moll. Wien, v. 1, *in* Abh. K.K. Geol. Reichsanst., v. 3, p. 227, pl. 23, fig. 11; Miocene, Austria [see note after *borni* Hörnes]. *PAZIELLA*

GORGON [*Boreotrophon*] Dall, 1913, Proc. U. S. Nat. Mus., v. 45, p. 588; Kira, 1962, Shells Western Pacific, v. 1, pl. 25, fig. 6; Japan. ? *POIRIERIA*

*GOSPORTENSIS Aldrich *in* Palmer, 1937, Bull. Amer. Paleont., v. 7, No. 32, p. 268, pl. 36, fig. 3; Eocene, Alabama [?? = pathologic *engonatus* Conrad]. ? *HEXAPLEX*

*GOUETENSIS Cossmann, 1919, Bull. Soc. Sci. Nat. Ouest France, Nantes, (ser. 3) v. 5, p. 82, pl. 2, figs. 24, 25; Eocene, France. *HEXAPLEX*

GOULDI [*Pteronotus*] A. Adams, 1863, Proc. Zool. Soc. London, (1862), p. 371; Japan. *CERATOSTOMA*

*GRACEAE [*Tritonalia*] McGinty, 1940, Nautilus, v. 58, p. 84, pl. 10, fig. 2; Pleistocene, Florida. *MUREXIELLA*

*GRACIENSIS Almera & Bofill, 1893, Bol. Com. Mapa Geol. España, v. 19, p. 108, pl. 8, figs. 63, 64, as *imbricatus* var.; Pliocene, Spain. *OCINEBRINA*

GRACILIS Montagu, 1803, Test. Brit., v. 1, p. 267, pl. 15, fig. 5; Mediterranean. *COMARMONDIA* (type)

gracilis [*Aranea*] Perry, 1810, Arcana, pl. 47; Indo-Pacific [? = *pecten* Lightfoot, *triremis* Perry, *tenuispina* Lamarck]. *MUREX s.s.* (type—*Aranea* Perry)

**gracilis* Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 437, pl. 9, fig. 16; Pliocene, Italy [? = juv. *pespelecani* Linné]. ? *APORRHAIS*

**gracilis* [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 142; Oligocene, Germany. TURRIDAE

gracilis Monterosato, 1878, Enum. e Sinon., p. 40 [nude name]; *in* Bucquoy, Dautzenberg & Dollfus, 1882, Moll. Mar. Roussillon, v. 1, p. 20, as *blainvillei* var.; Mediterranean. *MURICOPSIS*

*GRADATUS J. Sowerby, 1818, Mineral Conch., v. 2, p. 227, pl. 199, fig. 6; Eocene, England. *PISANIA*

GRANARIUS Lamarck, 1822, Anim. s. Vert, v. 7, p. 176, ref. to Chemnitz, v. 4, figs. "1124 ?; 1125 ?" ? *MORULA*

**grandis* Dollfus & Dautzenberg, 1886, Feuille Jeunes Nat., Année 6, No. 189, p. 104, as *aquitanicus* var.; Miocene, France [nude name, ? = *aquitanicus* Grateloup]. *CHICOREUS*

*GRANDIS Edwards *in* Wrigley, 1930, Proc. Malac. Soc. London, v. 19, p. 94, pl. 9, fig. 5, as *tricarinatus* var.; Eocene, England [? = *crenulata* Röding]. *PTERYNOTUS*

**grandispinosa* Aldrich, 1895, Bull. Amer. Paleont., v. 1, No. 2, p. 14; Oligocene, Mississippi [unnecessary n.n. pro *burnsii* Aldrich *non* Whitfield]. *PTERYNOTUS*

*GRANIFERUS Michelotti, 1841, Monografia *Murex,* p. 11, pl. 5, fig. 6; Miocene, Italy. *SUBPTERYNOTUS*

*GRANIFORMIS Harris, 1897, Cat. Tert. Moll. Brit. Mus., pt. 1, p. 180; Miocene, Australia [n.n. pro *alveolatus* Tate *non* J. de C. Sowerby]. *FUSOMUREX*

GRANOSUS Helbling, 1779, Abh. Privatgesell. Böhmen, v. 4, p. 116, pl. 2, fig. 22. TURRIDAE

**granosus* Borson, 1821, Mem. R. Accad. Sci. Torino v. 26, p. 312, pl. 1, fig. 11; Miocene, Italy [= *Ranella nodosa* var. *mioquinqueseriata* Sacco]. *BURSA*

GRANULARIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3557, ref. to Knorr, pt. 5, pl. 14, fig. 4; Adriatic. *RHINOCLAVIS*

**granulata* Almera & Bofill, 1898, Bol. Com. Mapa Geol. España, (ser. 2) v. 4, p. 11, pl. 11, fig. 21, as *aciculatus* var.; Pliocene, Spain. ? *OCINEBRINA*

GRANULATUS Linné, 1758, Syst. Nat., ed. 10, p. 756; Indo-Pacific [? = *asper* Linné]. *RHINOCLAVIS*

**granulatus* [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 151; Oligocene, Germany. CERITHIACEA

**granulifer* Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 111, pl. 18, fig. 10 [unjustified emendation for *granuliferus* Grateloup]. *PTERYNOTUS*

*GRANULIFERUS Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 96; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], fig. 17; Miocene, France. *PTERYNOTUS*

GRANULOSUS "Renieri" Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 449, pl. 9, fig. 18; Mediterranean [not = *Cerithium maroccanum* Bruguiére, as stated by Brocchi]. *TRIPHORA*

GRANUM Linné, 1758, Syst. Nat., ed. 10, p. 752; Mediterranean [an indeterminable embryonic shell]

*GRATELOUPI [emend.] d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 73; Miocene, France [for *tripteroides* Grateloup, 1847, pl. 31, fig. 14, *non* Lamarck, orig. as *gratteloupi*]. *OCENEBRA*

*GRAVIDUS Dujardin, 1837, Mém. Soc. Géol. France, v. 2, p. 295; Miocene, France. ? *HEXAPLEX*

gravidus Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 128; 1844, Voyage *Sulphur,* Zool., Moll., pl. 3, figs. 19, 20; West Africa. *FAVARTIA*

GRINGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 263, as *trunculus* var. (for Michelotti, 1841, pl. 3, fig. 6); Mediterranean. *HEXAPLEX*

*GROOTI Jenkins, 1864, Quart. Jour. Geol. Soc. London, v. 20, p. 51, pl. 6, fig. 1; Miocene, Java. *HEXAPLEX*

*GRUNDENSIS Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterreanstufe, p. 216, pl. 26, fig. 6, as *sublavatus* var.; Miocene, Austria. *OCINEBRINA*

GUBBI Reeve, 1849, Conch. Icon., v. 3, *Murex,* Suppl. pl. 1, fig. 193; West Africa. *CHICOREUS*

*GUEMBELI Dreger, 1892, Ann. K.K. Naturh. Hofmuseum, Wien, v. 7, p. 24, pl. 4, fig. 5; ? Miocene, Austria. _MUREX s.s._

GUNDLACHI Dunker, 1883, Malak. Blätter, (n. s.) v. 6 [v. 31], p. 35, pl. 1, figs. 1, 2; West Atlantic. _SIRATUS_

GUTTATUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 102.

*GUTUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 249, as _lassaignei_ var. (for D'Ancona, 1871, pl. 3, fig. 6); Pliocene, Italy. _OCENEBRA_

*GYRINOIDES Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 401, pl. 9, fig. 9; Pliocene, Italy. ? _LAMPUSIA_

GYRINUS Linné, 1758, Syst. Nat., ed. 10, p. 748; Indo-Pacific. _APOLLON_ (type)

H

*HACCANENSIS Phillips, 1829, Geol. of Yorkshire, v. 1, p. 131, pl. 4, fig. 18; Jurassic, England. ? _PHORACANTHUS_

*HACCONICUS Briart & Cornet, 1869, Desc. Foss. Calcaire Grossier Mons, pt. 1, p. 3, pl. 1, fig. 1; Paleocene, France. ? _PAZIELLA_

HAEMOSTOMA Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 126.

*HAIDINGERI Hörnes, 1853, Foss. Moll. Wien, v. 1, _in_ Abh. K.K. Geol. Reichsanst., v. 3, p. 228, pl. 23, fig. 12; Miocene, Austria [see note after _borni_ Hörnes]. _OCINEBRELLUS_

*HALLI d'Archiac & Haime, 1853, Desc. Anim. Foss. Numm. Inde, p. 311, pl. 29, fig. 22; Eocene, India.

HAMATUS Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 128; 1844, Voyage _Sulphur,_ Zool., Moll., pl. 3, figs. 11, 12; East Pacific. _PTERORYTIS_

*HAMILTONENSIS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 101, pl. 3, fig. 6; Miocene, Australia. _XENOTROPHON_

*HAMULIFER Boettger, 1906, Verh. Mitt. Siebend. Ver. Naturw. Hermannstadt, v. 54, p. 41; Zilch, 1934, Senckenbergiana, v. 16, pl. 15, fig. 77 (lectotype); Miocene, Romania. _HEXAPLEX_

HANETI Petit de la Saussaye, 1856, Jour. de Conchyl., v. 5, p. 90, pl. 2, figs. 7, 8; Emerson, 1968, Veliger, v. 11, pl. 1, figs. 4-6 (holotype); Brazil. _HANETIA_ (type)

HANLEYI Dautzenberg, 1887, Bull. Soc. Études Sci. Paris, Année 9, p. 25 [? of separate]; Mediterranean. [? = _erinaceus_ Linné]. _OCENEBRA_

*_hannonicus_ "Briart & Cornet" Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 34 [err. pro _hacconicus_ Briart & Cornet]

*HANTONIENSIS Edwards _in_ Lowry, 1866, Char. Brit. Tert. Foss., pl. 3; Eocene, England. ? _MUREXSUL_

HARPA Gmelin, 1791, Syst. Nat., ed. 13, p. 3554, ref. to Chemnitz, v. 4, figs. 1328-1330 [a composite species]

*HARPULA Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 421, pl. 8, fig. 12; Miocene, Italy. _RAPHITOMA_

*_harpula_ J. de C. Sowerby, 1827, Mineral Conch., v. 6, p. 152, pl. 578, fig. 5; Mississippian, England. ? _SOLENISCUS_

*HARRISI [_Poirieria_] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 18, pl. 4, fig. 3; Paleocene, Alabama [n.n. pro _morulus_ Conrad _non_ Schröter]. _PAZIELLA_

*HARRISONI Bell, 1915, Geol. Mag., (decade 6) v. 2, p. 167 [nude name]; _in_ Harmer, 1920, Pliocene Moll. Gt. Brit., v. 2, pt. 1, _in_ Palaeont. Soc., v. 72, p. 521, pl. 47, fig. 2; Pliocene, England.

HASTULA [_Ranella_] Reeve, 1844, Conch. Icon., v. 2, _Ranella,_ pl. 8, fig. 42; 1845, Proc. Zool. Soc. London, pt. 12, p. 139; Galápagos. _ASPELLA_

*HATCHERI Ortmann, 1900, Amer. Jour. Sci., (ser. 4) v. 10, p. 375; 1902, Princeton Univ. Exped. Patagonia, v. 4, pt. 2, pl. 34, fig. 6; Miocene, Patagonia. _THAIS_

*HAUDMUTICUS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine _in_

Actes Soc. Linn. Bordeaux, v. 75, p. 101, pl. 12, figs. 28, 29; Miocene, France. *BOLINUS*

HAUSTELLUM Linné, 1758, Syst. Nat., ed. 10, p. 746; Indo-Pacific. *HAUSTELLUM* (type)

HAVANENSIS [*Pterynotus*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 13, pl. 3, fig. 1 (holotype); West Atlantic [n.n. pro *tristichus* Dall *non* Beyrich]. *PTERYNOTUS*

*HEILPRINI [*Muricopsis*] Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 34; Miocene, Florida [n.n. pro *spinulosa* Heilprin *non* Deshayes]. *PANAMUREX*

HEMITRIPTERUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 418, fig. 4; 1822, Anim. s. Vert., v. 7, p. 166; West Africa [? = *decussatus* Gmelin]. *JATON*

hemphilli [*Muricidea*] Dall, 1884, Proc. U. S. Nat. Mus., v. 6, p. 327 [nude name; 1889 placed in synonymy of "*Muricidea*" *multangula* (Philippi) by Dall]. *CANTHARUS*

*HEPTAGONATUS Bronn, 1831, Ital. Tert. Gebild., p. 35; Michelotti, 1841, Monografia *Murex,* pl. 4, figs. 5, 6; Miocene, Italy. *HOMALOCANTHA*

*HEPTOGONUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 404, pl. 9, fig. 2; Pliocene, Italy. *CYMATIUM*

HERMANNI Vélain, 1876, Compt. Rend. Acad. Sci. Paris, v. 83, p. 285 [nude name]; 1877, Arch. Zool. Expér. Gén., v. 6, p. 99, pl. 2, figs. 3, 4 [as *hermani*]; Indian Ocean. ? *OCENEBRA*

HEROS Fulton, 1936, Proc. Malac. Soc. London, v. 22, p. 9, pl. 2, fig. 1; Japan. *MUREX s.s.*

**herzedus* "Brander" Fleming, 1828, Hist. Brit. Anim., p. 352 [in synonymy of *Fusus ficulneus*]; Eocene, England [? err. pro *turgidus* Solander *in* Brander]

HEXAGONUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3565, ref. to Chemnitz, v. 10, figs. 1554, 1555; ? Australia [Chemnitz's specimen was said to have been collected in the South Seas by Capt. Cook, but Bruguière used the same Chemnitz ref. for a Paris Basin Eocene cerithiid species, which is now known by this name also. The English species "*Murex*" *angulatus* Solander *in* Brander is probably the same as this latter and may be available for the fossil form.] *PYRAZUS*

hexagonus Lamarck, 1816, Tabl. Encycl. Méth (Vers), v. 3, pl. 418, fig. 3; 1822, Anim. s. Vert., v. 7, p. 169; West Atlantic [see *oxytata* Smith]. *MURICOPSIS*

HIDALGOI Crosse, 1869, Jour. de Conchyl., v. 17, p. 408; 1871, *ibid.,* v. 19, pl. 1, fig. 4; West Atlantic. *MUREXIELLA* (type)

HIPPOCASTANUM Linné, 1758, Syst. Nat., ed. 10, p. 751; Indo-Pacific. *VOLEMA* (type—*Thalessa* Adams & Adams, see ICZN Opinion 911, 1970)

hippocastanum Philippi, 1845, Abbhildungen Besch. Conchylien, v. 1, pt. 8, p. 191, pl. 1, fig. 2; East Pacific [? = *erythrostomus* Swainson]. *PHYLLONOTUS*

HIRASEI Dautzenberg *in* Hirase, 1915, Illus. 1000 Shells, pt. 3, pl. 47, fig. 232; Japan. *HAUSTELLUM*

HIRSUTUS Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, p. 83, pl. 6, fig. 2; ? West Africa [? = *angularis* Lamarck]. *HEXAPLEX*

HISPIDA [*Muricopsis*] Monterosato *in* Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, pl. 6, fig. 58; Adriatic. *MURICOPSIS*

*HISPIDULUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 139; Oligocene, Germany.

histrix Röding, 1798, Museum Boltenianum, p. 145; Indo-Pacific [preoccupied by *hystrix* Linné (Code, Art. 58-2); = *tenuispina* Lamarck, both for Favanne, pl. 38, figs. A1, A2, ? =*pecten* Lightfoot]. *MUREX s.s.*

*HOCHSTETTERI Hoernes & Auinger, 1885, Die Gastropoden Miocänen

Mediterraneanstufe, p. 225, pl. 27, figs. 9, 10; Miocene, Hungary. ? *CORALLIOPHILA*

*HOERLEI [*Pterynotus*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 12, pl. 2, fig. 3; Miocene, Florida. *PTERYNOTUS*

*HOERNESI [emend.] Speyer, 1863, Palaeontographica, v. 9, pt. 5, p. 177, pl. 32, figs. 11-13; Oligocene, Germany [orig. as *hörnesi*—Code, Art. 32 (c)i; ? = *deshayesii* Duchastel *in* Nyst]. *FLEXOPTERON*

**hoernesi* [emend.] D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, p. 334, pl. 5, fig. 2; Pliocene, Italy [for *sedgewicki* Hörnes, 1853, *non* Michelotti; orig. as *hörnesi*—Code Art. 32(c)i; = *austriacus* Tournouër, also *campanii* DeStefani, and *ambernus* de Gregorio]. *HEXAPLEX*

*HOLOCRISTATUS Noszky, 1940, Ann. Hist. Nat. Mus. Natl. Hung., v. 33, p. 28, pl. 2, fig. 3; Oligocene, Hungary. *PTERYNOTUS*

*HOLUBICENSIS Friedberg, 1912, Mieczaki Miocen. *in* Muz. Dzieduszychich, v. 14, No. 2, p. 172, pl. 11, fig. 4; Miocene, Poland. *MURICOPSIS*

HOPLITES Fischer, 1876, Jour. de Conchyl., v. 24, p. 236, pl. 8, fig. 3; West Africa [? = *rosarium* Röding]. *HEXAPLEX*

*HORDEOLUS Michelotti, 1841, Monografia *Murex,* p. 26, pl. 5, figs. 9, 10; Miocene, Italy. ? *PAZINOTUS*

**hörnesi* — see *hoernesi* [emend.]

*HORRENS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 121, pl. 8, fig. 7; Miocene, Italy. *PSEUDOMUREX*

HORRIDA [*Muricopsis*] Monterosato *in* Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, pl. 6, fig. 59, as *blainvillei* var.; Adriatic. *MURICOPSIS*

*HORRIDUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 405, pl. 7, fig. 17; Pliocene, Italy. *TYPHIS s.s.* (type-*Hirtotyphis* Jousseaume)

horridus Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 176; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 61, fig. 29; East Pacific [see *broderipii* Michelotti, n.n.; also *boivinii* Kiener]. *NUCELLA*

HUMILIS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 65, figs. 46, 47; East Pacific. *MUREXIELLA*

*HUTCHISONI [*Calotrophon* (?)] Jung, 1969, Bull. Amer. Paleont., v. 55, No. 247, p. 494, pl. 50, figs. 7-9; Miocene, Trinidad. *PANAMUREX*

HUTTONIAE Wright, 1878, Ann. Soc. Malac. Belg., v. 13, p. 85, pl. 9, figs. 1, 2; Indo-Pacific [? = *brunnea* Link, bright orange variety]. *CHICOREUS*

HYBRIDUS Aradas & Benoit, 1870, Conch. Viv. Mar. Sicilia, p. 272, pl. 5, fig. 9; Mediterranean. ? *OCINEBRINA*

HYSTRICINUS Dall, 1889, Bull. Harvard Mus. Comp. Zool., v. 18, p. 200, pl. 16, fig. 4; West Atlantic. *LATIAXIS*

HYSTRIX Linné, 1758, Syst. Nat., ed. 10, p. 750; Indo-Pacific. *DRUPA*

hystrix "Martini" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 98; Indo-Pacific [= *scolopax* Dillwyn]. *MUREX s.s.*

I

*IGHINAE Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 49; Sacco, 1904, *ibid.,* v. 30, pl. 4, fig. 30; Oligocene, Italy [for *rudis* Michelotti, 1861, *non* Borson]. *HEXAPLEX*

*IMBRICATOIDES Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, p. 224; Miocene, Austria [= *billus* de Gregorio, both for Hörnes, 1856, pl. 25, fig. 4; not known which taxon is older]. *OCINEBRINA*

*IMBRICATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 408, pl. 7, fig. 13; Pliocene, Italy. *OCINEBRINA*

imbricatus Risso, 1826, Hist. Nat. Europe, v. 4, p. 196.

imbricatus Chiereghini _in_ Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 55 [? = _erinaceus_ Linné]. _OCENEBRA_

imbricatus Higgins & Marrat, 1877, Proc. Lit. Phil. Soc. Liverpool, v. 31, p. 413, pl. 1, fig. 2; West Atlantic [see _argo_ Clench & Pérez Farfante, n.n.; ? = _spectrum_ Reeve]. _CHICOREUS_

IMMUNITUS [_Torvamurex_] Iredale, 1936, Rec. Australian Mus., v. 19, p. 324, pl. 23, fig. 14, as _denudata_ Perry var.; Australia [? = _denudata_]. _CHICOREUS_

IMPERIALIS Fischer de Waldheim, 1807, Mus. Demidoff, v. 3, p. 198.

imperialis [_Purpura_] Schumacher, 1817, Essai Vers Test., p. 213; West Africa [= _rosarium_ Röding, both for Chemnitz, v. 10, figs. 1528, 1529]. _HEXAPLEX_

imperialis Swainson, 1831, Zool. Illus., (ser. 2) v. 2, pl. 67; Venezuela [see _margaritensis_ Abbott, n.n.]. _PHYLLONOTUS_ (type, as _imperialis_ var. _a_ Swainson)

*IMPERIPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 231, as _brandaris_ var.; Pliocene, Italy. _BOLINUS_

IMPROBUS Gould, 1860, Proc. Boston Soc. Nat. Hist., v. 7, p. 328; China. ? _CANTHARUS_

INCA d'Orbigny, 1841, Voyage Amér. Mérid., Moll., v. 5, pt. 3, p. 455, pl. 78, fig. 3; Peru. _CANTHARUS_

INCARNATA [_Purpura_] Röding, 1798, Museum Boltenianum, p. 142, ref. to Martini, v. 3, figs. 980, 981; Indo-Pacific [_inflatus_ Lamarck is same species; ? = _ramosus_ Linné]. _CHICOREUS_

incensis "Sav." Salisbury, 1955, Zool. Rec., v. 90 (1953), Moll. p. 84 [err. pro _inermis_ G. B. Sowerby II].

INCISUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 176; G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 59, fig. 13; East Pacific. _FAVARTIA_

INCOMPTA [_Coralliophila_] Berry, 1960, Leaflets in Malac., v. 1, No. 19, p. 119; Emerson, 1968, Veliger, v. 10, pl. 53, fig. 1 (holotype); Gulf of California. _ATTILIOSA_ (type)

INCONSPICUUS G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 191, fig. 81; East Atlantic [? = _aciculatus_ Lamarck]. _OCINEBRINA_

*INCRUSTATUS [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 151; Oligocene, Germany. CERITHIACEA

INDENTATA Carpenter, 1857, Cat. Mazatlán, p. 527, as (?) _erinaceoides_ var.; Keen, 1968, Veliger, v. 10, pl. 58, fig. 64 (holotype); East Pacific. _DERMOMUREX_

INERMIS Philippi, 1836, Enum. Moll. Siciliae, v. 1, p. 209 [desc. only, name on plate expl.], pl. 11, fig. 25, as _cristatus_ Brocchi var.; Mediterranean. _MURICOPSIS_

*_inermis_ Dujardin, 1837, Mém. Soc. Géol. France, v. 2, p. 296, pl. 19, fig. 10, as _cristatus_ Brocchi var. [? = Philippi]; Miocene, France [see _dujardini_ Peyrot, n.n.]. _MURICOPSIS_

inermis G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 192, fig. 87; 1841, Proc. Zool. Soc. London, pt. 8, p. 146; Japan. _TAKIA_ (type)

*_inermis_ Partsch _in_ Hörnes, 1848, Verz. Fossil-reste Wien, p. 18, _in_ Czjzek, 1849, Erläut. Geog. Karte [nude name; see _partschi_ Hörnes]. _BOLINUS_

*_inermis_ Roman, 1940, Notes Mém. Haut Comm. Franc. en Syria, Liban, v. 3, p. 365 pl. 2, fig. 5, as _torularius_ var.; Pliocene, Syria. _BOLINUS_

*INEZANA [_Centrifuga_] Durham, 1950, Geol. Soc. Amer., Mem. 43, p. 113, pl. 26, figs. 1, 4; Pleistocene, Baja California [? = _pinniger_ Broderip]. _PURPURELLUS_

INFANS E. A. Smith, 1884, Voyage _Alert,_ Zool., Moll., p. 491, pl. 44, fig. E; Indian Ocean. _MURICOPSIS_

*INFLATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 412, pl. 9, fig. 6; Pliocene, Italy. _PISANIANURA_ (type) *inflatus* Lamarck, 1822, Anim. s. Vert., v. 7, p. 160; Indo-Pacific [= *incarnata* Röding, both for Martini, v. 3, figs. 980, 981; ? = *ramosus* Linné] *CHICOREUS* (type—*Frondosaria* Schlüter)

*INFLEXUS Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22 [nude name]; *in* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 108; Sacco, 1904, *ibid.*, v. 30, pl. 5, figs. 8, 9; Miocene, Italy. ? *UROSALPINX*

*INFRATUBULATUS Cossmann, 1903, Jour. de Conchyl., v. 51, p. 152, pl. 6, fig. 1; Pliocene, India.

*INFREQUENS E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 156, pl. 1, fig. 4; Miocene, Florida. *PHYLLONOTUS*

*INFUNDIBULUM Gmelin, 1791, Syst. Nat., ed. 13, p. 3554, ref. to Chemnitz, v. 4, p. 143, vign. 39 A; West Atlantic. *POLYGONA* (type, as *fusiformis* Schumacher)

INGLORIUS Crosse, 1865, Jour. de Conchyl., v. 13, p. 213, pl. 6, fig. 4. *OCINEBRINA*

*INNEXUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 19, pl. 2, fig. 30; Eocene, England. TURRIDAE

INOPS Dautzenberg, 1891, Mém. Soc. Zool. France, v. 4, p. 40, as *varius* var. (for Dunker, 1853, Index Moll., pl. 3, figs. 20, 21); West Africa [? = *varius* Sowerby]. *CHICOREUS*

INORNATUS Récluz, 1851, Jour. de Conchyl., v. 2, p. 207, pl. 6, fig. 8; Korea. *OCENEBRA*

inornatus A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 269 [see *densus* Adams, n.n.; also *adamsi* G. B. Sowerby II, n.n.]. *HEXAPLEX*

**inornatus* Beyrich, 1854, Zeitsch. Deutsch. Geol. Gesell., v. 6, p. 757; Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, pl. 7, fig. 16; Oligocene, Germany [see *beyrichi* von Koenen, n.n.; ? = *fasciolarius* Grateloup, *borsoni* Michelotti]. *BOLINUS*

*INSCULPTUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 118, pl. 8, fig. 4; Miocene, Italy. ? *ENGINELLA*

INSULARUM Pilsbry, 1921, Proc. Acad. Nat. Sci. Phila., v. 72, p. 319, as *torrefactus* var.; Hawaii. *CHICOREUS*

*INTERCISUS Michelotti, 1841, Monografia *Murex*, p. 25, pl. 5, figs. 7, 8; Miocene, Italy. ? *CANTHARUS*

*INTERFUNATUS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 132, pl. 13, figs. 10, 11, as *absonus* var.; Miocene, France. *HEXAPLEX*

**intermedia* Depontaillier, 1884, Jour. de Conchyl., v. 32, pp. 32, 36, as *brandaris* var.; Pleistocene, France. *BOLINUS*

**intermedia* Ivolas & Peyrot, 1900, Actes Soc. Linn. Bordeaux, v. 55, p. 136, as *basteroti* var.; Miocene, France [see *ivolasi* Cossmann, n.n.; ? = *dufrenoyi* Grateloup]. *OCENEBRA*

*INTERMEDIUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 400, pl. 7, fig. 10; Pliocene, Italy. *CYMATIUM*

intermedius C. B. Adams, 1850, Cont. to Conch., v. 1, No. 4, p. 60; Clench & Turner, 1950, Occ. Papers Moll., v. 1, No. 15, pl. 39, fig. 15 (lectotype); West Atlantic [?? = *alveatus* Kiener; see *elegans* Perrilliat, n.n.]. *CARIBIELLA*

*INTERRUPTUS Pilkington, 1804, Trans. Linn. Soc. London, v. 7, p. 117, pl. 11, fig. 5; Eocene, England. ? *PISANIA*

**interruptus* Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 433, pl. 9, fig. 21; Pliocene, Italy. *CLAVATULA*

INTERSERRATUS G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex*, p. 39, fig. 204. ? *PANAMUREX*

INTERTEXTUS Helbling, 1779, Abh. Privatgesell. Böhmen, v. 4, p. 120, pl. 2, figs. 26, 27. ? *COLUBRARIA*

*INTORTUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 427, pl. 8, fig. 17; Pliocene, Italy. _ACAMPTOGENOTIA_ (type)

INVERSUS Costa, 1829, Cat. Test. Sicilie, p. 90; Mediterranean.

IOSTOMA G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 64, fig. 42; Indo-Pacific [? = _fiscellum_ Gmelin]. _MORULA_

iostomus A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 267; Philippines. _MURICOPSIS_

*IPIMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 242, as _craticulatus_ Brocchi var.; Pliocene, Italy _HADRIANIA_

*IRAVADICUS Vredenberg, 1921, Rec. Geol. Sur. India, v. 51, pp. 274, 288; Miocene, Burma [pro _tchihatcheffi_ Noetling, 1901, pl. 21, fig. 9 (only), _non_ d'Archiac & Haime; spelled _irravadicus_ by Vredenberg, 1925, which would be correct spelling for Irrawaddy River, Burma]. ? _CANTHARUS_

IREDALEI [_Pterynotus_] Fleming, 1962, Trans. Roy. Soc. New Zealand, Zool., v. 2, No. 14, p. 116, pl. 1, fig. 17, as _zealandica_ Hutton subsp.; Norfolk Island [? = _canaliferus_ G. B. Sowerby II]. _PTEROCHELUS_

*IRREGULARIS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 128, pl. 8, fig. 21; Miocene, Italy [? = _imbricatus_ Brocchi]. _OCINEBRINA_

*_irregularis_ Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 102, pl. 6, fig. 3; Miocene, Australia [see _Hadriania basedowi_ Cossmann, n.n.] _XENOTROPHON_

*ISGILLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 266, as _trunculus_ var.; Pliocene, Italy. _HEXAPLEX_

ISLANDICUS Mohr, 1786, Island. Nat., p. 136, ref. to Chemnitz, v. 4, figs. 1312, 1313; Iceland [_islandicus_ Gmelin, 1791, is same species]. _COLUS_ (type)

*ISSELI Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 121, pl. 8, fig. 6; Miocene, Italy. _PSEUDOMUREX_

*IVOLASI Cossmann, 1901, Revue Crit. Paléozool., v. 5, p. 153; Miocene, France [n.n. pro _intermedia_ Ivolas & Peyrot _non_ Brocchi; ? = _dufrenoyi_ Grateloup]. _OCENEBRA_

J

JACQUELINAE [_Murexsul_] Emerson & D'Attilio, 1969, Veliger, v. 11, p. 324, pl. 50, figs. 1-6; Galápagos. _MUREXSUL_

JALISCOENSIS [_Muricopsis_] Radwin & D'Attilio, 1970, Veliger, v. 12, p. 353, pl. 52, figs. 4-6; West Mexico. _MURICOPSIS_

JAMAICENSIS G. B. Sowerby II, 1879, Thes. Conch., v. 4, _Murex,_ p. 39, fig. 223; West Atlantic [? = _cellulosus_ Conrad]. _FAVARTIA_

JAMRACKI von Martens, 1861, Malak. Blätter, v. 7, p. 225; Gulf of California [? = _Typhis fimbriatus_ Adams]. _PTEROTYPHIS_

*JANI Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22 [nude name]; _in_ Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 73; Sacco, 1904, _ibid.,_ v. 30, pl. 5, fig. 32; Pliocene, Italy. _DERMOMUREX_

*JANIANUS Coccini, 1873, Mem. Accad. Sci. Inst. Bologna, (ser. 3) v. 3, p. 446, pl. 1, figs. 4, 5; Mio-Pliocene, Italy [? = _bracteatus_ Brocchi]. _PSEUDOMUREX_

JAPONICUS Dunker, 1860, Malak. Blätter, v. 6, p. 230; 1861, Moll. Japonica, pl. 1, fig. 14; Japan [? = _inornatus_ Récluz]. _OCENEBRA_

JATONUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 418, fig. 1; West Africa [? = _decussatus_ Gmelin, ? both for "Le Jaton" Adanson]. _JATON_

JAVANUS Linné, 1767, Syst. Nat., ed. 12, p. 1221; Indo-Pacific. _SURCULA_ (type)

JICKELII Tapparone-Canefri, 1875, Ann. Mus. Civ. Stor. Nat. Genova, v. 7, p. 582, pl. 19, fig. 6; Red Sea. _NAQUETIA_

*JOGJACARTENSIS [*Muricopsis*] Martin, 1931, Wetenschap. Mededeelingen, No. 18, p. 29, pl. 4, fig. 14; Eocene, Java ? *PTERYNOTUS*

JOUSSEAUMEI Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, p. 58, pl. 6, fig. 1; Indo-Pacific [? = *torrefactus* G. B. Sowerby II]. *CHICOREUS*

*JUCUNDUS Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 325, pl. 87, figs. 21-23; Eocene, France [n.n. pro *formosus* Deshayes (on plate expl. only) *non* G. B. Sowerby II; ? = *fraterculus* Deshayes, also *foliaceus* Deshayes]. *MUREXIELLA*

*JULIAGARDNERAE [*Chicoreus*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 51; Miocene, Florida [n.n. pro *gardnerae* Vokes *non* Dall]. *SIRATUS*

*JUNGHUHNI Martin, 1880, Tertiärschichten Java, p. 51, pl. 9, fig. 8; Miocene, Java. *HEXAPLEX*

*JUNCEUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 17, pl. 1, fig. 26; Eocene, England. *DAPHNOBELA* (type, as *Buccinum juncea* J. Sowerby)

*JUTTINGAE Beets, 1941, Verh. Geol. Minj. Nederland Koloniën, (Geol.), v. 13, p. 95, pl. 5, figs. 207-211; Miocene, Borneo. *CHICOREUS*

K

*KAIPARAENSIS [*Pterynotus*] Fleming, 1962, Trans. Roy. Soc. New Zealand, Zool., v. 2, No. 14, p. 110, pl. 1, fig. 1; Miocene, New Zealand. *PTERYNOTUS*

*KARANGENSIS Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 1, pt. 5, p. 130, pl. 20, fig. 295; Miocene, Java. *CHICOREUS*

*KATHERINAE [*Hexaplex*] E. H. Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, p. 100, pl. 1, fig. 4; Eocene, Louisiana & Mississippi [for *vanuxemi* Palmer, 1947, pl. 44, figs. 10-13, *non* Conrad]. *HEXAPLEX*

KAWAMURAI Shikama, 1964, Selected Shells World in Color, v. 2, p. 116, pl. 65, fig. 4; Taiwan [? = *axicornis* Lamarck]. *CHICOREUS*

KEENAE [*Murexiella*] E. H. Vokes, 1970, Veliger, v. 12, p. 328, pl. 50, figs. 8-10; East Pacific. *MUREXIELLA*

*KELLUMI Richards, 1943, Jour. Paleont., v. 17, p. 524, pl. 85, figs. 3, 4; Miocene, North Carolina. *CERATOSTOMA*

*KENDENGENSIS [*Chicoreus*] van Regteren Altena, 1950, Leidse Geol. Mededelingen, v. 15, p. 206, text figs. 1, 2; Miocene, Java. *CHICOREUS*

KIENERI Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 34, fig. 172; South Africa [n.n. pro *exiguus* Kiener *non* Broderip, etc.]. ? *MUREXSUL*

KIIENSIS Kuroda *in* Kira, 1955, Coloured Illus. Shells Japan, pl. 23, fig. 10 [not valid, no description, see Code, Art. 13]; Kira, 1962, Shells Western Pacific, v. 1, p. 63, pl. 24, fig. 10; Japan. *MUREX s.s.*

**klipsteinii* Hörnes, 1848, Verz. Fossil-reste Wien, p. 18, *in* Czjzek, 1849, Erläut. Geog. Karte [nude name; = *varicosissimus* Bonelli, *fide* Hörnes, 1853]. *PAGODULA*

*KOCHI Beyrich, 1854, Zeitsch. Deutsch. Geol. Gesell., v. 6, p. 759; Tembrock, 1963, Paläont. Abh., v. 1, No. 4, pl. 4, fig. 9; Oligocene, Germany. *CORALLIOPHILA*

*KOMITICUS Suter, 1917, New Zealand Geol. Sur., Paleont. Bull. 5, p. 37, pl. 4, fig. 21, as *zelandicus* Quoy & Gaimard var.; Miocene, New Zealand. *CHICOREUS*

KOPUA [*Poirieria*] Dell, 1956, New Zealand Dominion Mus., Bull. 18, p. 144, figs. 161, 162, 165; New Zealand. *POIRIERIA*

*KOSTEJANA Boettger, 1901, Verh. Mitt. Siebend. Ver. Naturw. Hermannstadt, v. 51, p. 29; Zilch, 1934, Senckenbergiana, v. 16, pl. 15, fig. 81 (lectotype); Miocene, Romania. *FAVARTIA*

KUGLERI Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 19, pl. 9, figs. 1, 2, as *cailleti* var.; West Atlantic [n.n. pro *similis* G. B. Sowerby II *non* Schröter; ? = *cailleti* Petit]. *SIRATUS*

KURODAI [*Favartia*] Nakamigawa & Habe, 1964, Venus, v. 23, p. 25 [Japanese], 27 [English], pl. 2, fig. 2; Japan. ? *MUREXSUL*

KURODAI Shikama, 1964, Venus, v. 23, p. 34 [Japanese], 35 [English], pl. 3, figs. 1, 2; Japan [? = *longicaudus* Baker]. *HAUSTELLUM*

KUROHARAI [*Tarantellaxis*] Habe, 1970, Venus, v. 29, p. 86, text figs. 1, 2; Japan. [Named as type of a new genus of Rapidae and compared to species of the genus *Latiaxis,* this bizarre species with disjunct whorls has much more the appearance of a pathologic *Homalocantha* than anything else. There are, however, two specimens in the type lot, which suggests that it is at least a valid species.] ? *HOMALOCANTHA* (type — *Tarantellaxis* Habe)

KURRANULLA [*Poirieria*] Garrard, 1961, Jour. Malac. Soc. Australia, No. 5, p. 27, pl. 2, fig. 4; Australia [? = *recticornis* Martens]. *CHICOREUS*

KUSTERIANUS Tapparone-Canefri, 1875, Ann. Mus. Civ. Stor. Nat. Genova, v. 7, p. 635, pl. 19, figs. 1, 2; West Africa. *HEXAPLEX*

L

*LABIATUS Cristofori & Jan, 1832, Cat. Mus., Sect. II, Conch. Foss., p. 11; D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, pl. 6, fig. 8 [as *tetrapterus* Bronn]; Pliocene, Italy. *TYPHINELLUS*

LABIOSUS Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 18; Indo-Pacific. *CABESTANA*

labiosus Gray, 1828, Spicilegia Zool., pt. 1, p. 4, pl. 6, fig. 9; Peru [= *crassilabrum* Gray *in* G. B. Sowerby II, ? n.n.]. *CRASSILABRUM*

labiosus Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 55; Adriatic [? = *Ocenebra fasciata* Coen]. *OCINEBRINA*

*LABROSUS Bonelli *in* Bellardi & Michelotti, 1841, Mem. R. Accad. Sci. Torino, (ser. 2) v. 3, p. 132, pl. 3, figs. 15, 16 [as separate: Saggio Orittografico Terr. Terz. Piemonte, ? 1840, p. 40]; Miocene, Italy. *JANIOPSIS*

labrosus "Gray" d'Orbigny, 1841, Voyage Amér. Mérid., Moll., v. 5, pt. 3, pl. 62, figs. 8-10 [err. pro *labiosus* Gray = *crassilabrum* Gray]

*LACCAPOIA [*Muricopsis*] Gardner, 1947, U. S. Geol. Sur., Prof. Paper 142-H, p. 529, pl. 52, figs. 40, 41; Miocene, Florida. *PANAMUREX*

LACERATUM Deshayes, 1856, Jour. de Conchyl., v. 5, p. 79, pl. 3, figs. 3, 4; Mediterranean. *LATIAXIS*

LACERUS Born, 1778, Index Mus. Caes. Vind., p. 307, ref. to Martini, v. 3, fig. 951; Red Sea. *THAIS*

LACINIATUS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 187, fig. 59; Indo-Pacific. [The shell called *lacinatus* by Japanese authors is not the same species but is probably *superbus* G. B. Sowerby III.] *CHICOREUS*

LACTUCA [*Purpura*] Röding, 1798, Museum Boltenianum, p. 141, ref. to Martini, v. 3, figs. 1005-1008; Indo-Pacific [a composite species, fig. 1005 = *ramosus* Linné, figs. 1006-1008 = *cichoreum* Gmelin]. *CHICOREUS* + *HEXAPLEX*

LACTUCA Eschscholtz, 1829, Zool. Atlas, v. 2, p. 11, pl. 9, fig. 3; North Pacific [? = *Buccinum lamellosum* Gmelin]. *NUCELLA*

*LAETIFICUS [*Pteronotus*] Finlay, 1930, Trans. New Zealand Inst., v. 61, p. 76; Fleming, 1962, Trans. Roy. Soc. New Zealand, Zool., v. 2, No. 14, pl. 1, figs. 2-8; Miocene, New Zealand. *PTERYNOTUS*

*LAEVAVARICOSUS Whitfield, 1892, U. S. Geol. Sur., Mon. 18, p. 190, pl. 24, figs. 1, 2; Eocene, New Jersey. *SIPHONALIA*

laeve [*Haustellum*] Schumacher, 1817, Essai Vers Test., p. 213, ref. to Martini, v. 3, fig. 1066; Indo-Pacific [= *haustellum* Linné]. *HAUSTELLUM*

LAEVICOSTA Anton, 1839, Verz. Conch., p. 81.

*LAEVIGATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3555, ref. to Argenville, pl. 29, fig. 6-4; Eocene, France [? = *longaevus* Solander *in* Brander]. *CLAVALITHES* *_laevis_ Schlotheim, 1832, System. Verz. Petrefacten-Samml., p. 37; Oligocene, Germany [nude name]

LAEVISSIMUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 122.

LAEVIUSCULUS Schröter 1805, Archiv Zool. (Wiedemann), v. 4, p. 113.

*LAMARCKI Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], figs. 27, 36; ? Oligocene, France. ? _PTERYNOTUS_

LAMBERTI Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, p. 86, pl. 6, fig. 3; Indo-Pacific. _HOMALOCANTHA_

lamellata [_Purpura_] Röding, 1798, Museum Boltenianum, p. 140 [nude name]

LAMELLIFERUS Dunker, 1871, Malak. Blätter, v. 18, p. 158; Formosa. ? _LATAXIENA_

LAMELLOSA [_Bursa_] Dunker, 1863, Proc. Zool. Soc. London, (1862), p. 240; 1863, Novit. Conch., pt. 6, pl. 18, fig. 6; Japan [? = _anceps_ Lamarck]. _ASPELLA_

LAMELLOSUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3536, ref. to Martyn, v. 2, pl. 42; South Atlantic. _TROPHON_

LAMINIFERUS Reeve, 1845, Conch. Icon., v. 3, _Murex,_ pl. 26, fig. 117. ? _MUREXSUL_

LAMPAS Linné, 1758, Syst. Nat., ed. 10, p. 748; Indo-Pacific. _TUTUFA_ (type)

LANCEA Gmelin, 1791, Syst. Nat., ed. 13, p. 3556, ref. to Chemnitz, v. 4, fig. 1347; Indo-Pacific. _DOLICHOLATIRUS_

*LAPILLIFORMIS Leathes _in_ Woodward, 1833, Geology of Norfolk, p. 45, pl. 3, fig. 25; Pleistocene, England [? = _Buccinum lapillus_ Linné]. _NUCELLA_

*LAPILLOIDES Fischer & Tournouër _in_ Gaudry, 1873, Anim. Foss. Mont Léberon, p. 120, pl. 16, figs. 11, 12; Miocene, France. _OCINEBRINA_

LAPPA Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 177; G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 60, fig. 15; East Pacific. _MUREXIELLA_

LAQUEATUS G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 190, fig. 78; 1841, Proc. Zool. Soc. London, pt. 8, p. 142; Indo-Pacific. _PTERYNOTUS_

*LAQUEORATUS Spieker, 1922, Johns Hopkins Stud. Geol., No. 3, p. 51, pl. 2, fig. 4; Miocene, Peru. _TRAJANA_

LARVA Gmelin, 1791, Syst. Nat., ed. 13, p. 3559, ref . to Chemnitz, v. 10, figs. 1575, 1576; Indo-Pacific [? = _torulosa_ Linné]. _TIARACERITHIUM_

*LARVAECOSTA Heilprin, 1887, Trans. Wagner Free Inst. Sci., v. 1, p. 106, pl. 15, fig. 37; Miocene, Florida [? = _crispangula_ Heilprin]. _MUREXIELLA_

*LARVATUS Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22 [nude name]; _in_ Coppi, 1876, Boll. R. Comm. Geol. Ital., v. 7, p. 190; Montanaro, 1935, Palaeont. Ital., v. 35, pl. 2, fig. 19; Miocene, Italy. _OCENEBRA_

*LATIFOLIUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 54, pl. 4, fig. 5; Miocene, Italy. _PTERYNOTUS_ (type-_Timbellus_ de Gregorio)

*LATILABRIS Bellardi & Michelotti, 1841, Mem. R. Accad. Sci. Torino, (ser. 2) v. 3, p. 131, pl. 3, figs. 13, 14 [as separate: Saggio Orittografico Terr. Terz. Piemonte, ? 1840, p. 39]; Miocene, Italy. _PURPURELLUS_

*LATUS J. Sowerby, 1813, Mineral Conch., v. 1, p. 80, pl. 35, "left-hand lower figure;" Eocene, England. ? _PISANIA_

LAURAE [_Murexiella_] E. H. Vokes, 1970, Veliger, v. 12, p. 328, pl. 50, figs. 4, 5: East Pacific. _MUREXIELLA_

*_lavatus_ Partsch _in_ Hörnes, 1848, Verz. Fossil-reste Wien, p. 18, _in_ Czjzek, 1849, Erläut. Geog. Karte [nude name; = _sublavatus_ Basterot _fide_ Hörnes, 1853]. _OCINEBRINA_

*LEBACANUS Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 1, pt. 5, p. 125, pl. 19, figs. 285, 286; Pliocene, Java. _MUREX s.s._

LEEANUS Dall, 1890, Proc. U. S. Nat. Mus., v. 12, p. 329, pl. 7, fig. 1; East Pacific. *CALCITRAPESSA* (type)

*LEGRANDI Johnston, 1880, Proc. Roy. Soc. Tasmania, (1879), p. 32; Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, pl. 11, fig. 9; Miocene, Tasmania. *PAZIELLA*

*LEONENSIS [*Chicoreus*] E. H. Vokes, 1967, Tulane Stud. Geol., v. 5, No. 3, p. 147, pl. 6, figs. 1, 2; Miocene, Florida [for *pomum* Mansfield, 1930, pl. 11, fig. 9, *non* Gmelin]. *PHYLLONOTUS*

*LEONINUS Oppenheim, 1901. Palaeontographica, v. 47, p. 220, pl. 1, fig. 11; Eocene, Italy. *MUREXSUL*

*LEPIDOTUS E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 152, pl. 1, fig. 2; Miocene, Florida. *CHICOREUS*

LEPIDUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 26, fig. 113. ? *MUREXIELLA*

LEPIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 258, as *trunculus* var.; Mediterranean. *HEXAPLEX*

LEUCAS Fischer *in* Locard, 1897, Expéd. Sci. *Travailleur* et *Talisman,* Moll., v. 1, p. 306, pl. 15, figs. 10-13; East Atlantic. *PTERYNOTUS*

LEUCODERMA Scacchi, 1836, Cat. Conch. Regni Neapolitani, p. 11, fig. 16; Mediterranean [? = *scalaroides* Blainville]. *DERMOMUREX*

LEUCOSTEPHES [*Hertleinella*] Berry, 1958, Leaflets in Malac., v. 1, No. 16, p. 95; McLean & Emerson, 1970, Veliger, v. 13, plate [no No.] fig. 3 (holotype); Gulf of California [? = *turrita* Dall]. *CALOTROPHON* (type —*Hertleinella* Berry)

LEVICULA [*Ocinebra*] Dall, 1889, Bull. Harvard Mus. Comp. Zool., v. 18, p. 211, pl. 16, fig. 1 [as "*cellulosa,* young"], as *cellulosus* var.? ; Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, pl. 7, fig. 7 (lectotype); West Atlantic. *MUREXIELLA*

*LEVIS McClelland, 1841, Calcutta Jour. Nat. Hist., v. 2, p. 244; Cretaceous, India.

*LEYMERIEI [*Muricopsis*] Doucieux, 1909, Ann. Univ. Lyon, (n. s.) fasc. 22, p. 82, pl. 4, fig. 14; Eocene, France.

LIBASSI de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 239, as *bracteatus* var. (for Libassi, 1859, pl. 1, fig. 16); Mediterranean. *PSEUDOMUREX*

LICINUS Hedley & Pettard, 1906, Rec. Australian Mus., v. 6, p. 219, pl. 37, fig. 6; Australia. *EMOZAMIA* (type)

LIENARDI Crosse, 1873, Jour. de Conchyl., v. 21, p. 284; 1874, *ibid.,* v. 22, pl. 3, fig. 4; Mauritius. ? *PTERYNOTUS*

*LIGERIANA Tournouër, 1875, Jour. de Conchyl., v. 23, p. 149, pl. 5, fig. 3, as *vindobonensis* Hörnes var.; Miocene, France [? = *vindobonensis* Hörnes]. *OCENEBRA*

**ligeriensis* Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 128, pl. 18, fig. 17; Miocene, France [unjustified emendation for *ligeriana* Tournouër]. *OCENEBRA*

lignarius Linné, 1767, Syst. Nat., ed. 12, p. 1224 [err. pro *ligniarius* Linné]

LIGNARIUS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 268; West Africa [? = *quadrifrons* Lamarck]. *CHICOREUS*

LIGNIARIUS Linné, 1758, Syst. Nat., ed. 10, p. 755; Mediterranean. [Linné changed the spelling of this species to *lignarius* in the 12th Edition, and this later more correct Latin spelling has been adopted by all subsequent authors. However, it cannot be demonstrated to be an inadvertent error and so presumably, this is the "correct original spelling" according to the Code, Art. 32(a)ii.] *TARANTINAEA* (type)

*LIGNITUM Giebel, 1864, Abh. Naturf. Gesell. Halle, v. 8, p. 208, pl. 3, fig. 10; Oligocene, Germany [? = *bispinosus* J. de C. Sowerby]. *PTEROCHELUS*

LIGNOSUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3557, ref. to Gualtieri, pl. 52, fig. 0. *LATIRUS*

LIMA Gmelin, 1791, Syst. Nat., ed. 13, p. 3541, ref. to Martyn, v. 2, pl. 46; North Pacific. *NUCELLA*

LINEARIS Montagu, 1803, Test. Brit., v. 1, p. 261, pl. 9, fig. 4; Mediterranean. *CIRILLIA* (type)

lineata Perry, 1811, Conchology, pl. 54, fig. 3; Indo-Pacific [? = *trapezium* Linné]. *PLEUROPLOCA*

LINEATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3559, ref. to Chemnitz, v. 10, fig. 1572; New Zealand. *EUTHRIA*

**lineatus* Millet, 1866, Paléont. Maine et Loire, p. 17; Miocene, France.

lingua Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 688; West Africa [= *decussatus* Gmelin, both for Chemnitz, v. 10, figs. 1540, 1541]. *JATON*

*LINGUABOVIS Basterot, 1825, Mém. Soc. Hist. Nat. Paris, v. 2, p. 59, pl. 3, fig. 10; Miocene, France. *VITULARIA*

linguavervecina Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 27, fig. 121; West Africa [= *decussatus* Gmelin, both for Chemnitz, v. 10, figs. 1540, 1541]. *JATON*

LITTERATUS Born, 1778, Index Mus. Caes. Vind., p. 327; 1780, [as *literatus*] Test. Mus. Caes. Vind., p. 323, pl. 11, figs. 14, 15; West Atlantic. *CERITHIUM*

*LIVIDORUPIS [*Murexsul*] Laws, 1935, Trans. Roy. Soc. New Zealand, v. 65, p. 43, pl. 7, fig. 30; Miocene, New Zealand. ? *CORALLIOPHILA*

LIVIDUS Carpenter, 1857, Cat. Mazatlán, p. 519, as ? *recurvirostris* var.; Keen, 1968, Veliger, v. 10, pl. 58, figs. 63a, 63b (syntypes); Gulf of California. *MUREX s.s.*

*LOBATUS Wrigley, 1930, Proc. Malac. Soc. London, v. 19, p. 94, pl. 9, fig. 4, as *tricarinatus* var.; Eocene, England [? = *tricarinatus* Lamarck & *crenulata* Röding]. *PTERYNOTUS*

LOCO Molina, 1792, Sag. Storia Nat. Chile, p. 205 [also p. 348 as *locus*]; Chile.

LOEBBECKEI [emend.] Kobelt, 1879, Jahr. Deutsch. Malak. Gesell., v. 6, p. 78; 1880, *ibid.*, v. 7, pl. 3, fig. 2; China [orig. as *löbbeckei*, Code Art. 32(c)i]. *PTERYNOTUS*

**loescheri* de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 263, as *trunculus* var. (for D'Ancona, 1871, pl. 6, figs. 6, 7); Pliocene, Italy [= *spicus* de Gregorio (also for fig. 6) and *terigus* de Gregorio (for fig. 7); ? = *rudis* Borson]. *HEXAPLEX*

*LONDINI Wrigley, 1930, Proc. Malac. Soc. London, v. 19, p. 105, pl. 10, figs. 14, 15; Eocene, England [? = *subcoronatus* d'Orbigny]. *PAZIELLA*

*LONGAEVUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 22, pl. 2, fig. 40 [etc.]; Eocene, England. *CLAVALITHES*

*LONGANENSIS Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 1, pt. 5, p. 129, pl. 19, fig. 295; Miocene, Java. *HEXAPLEX*

LONGICAUDUS Baker, 1891, Proc. Acad. Nat. Sci. Phila., v. 43, p. 56, as *haustellum* var.; Indo-Pacific [not preocccupied by *longicaudus* Wood, 1818, = *Fusus longicauda* Lamarck, 1816]. *HAUSTELLUM*

LONGICORNIS Dunker, 1864, Malak. Blätter, v. 10, p. 99; 1864, Novit. Conch., pt. 8, pl. 22, figs. 5, 6; Australia. *CHICOREUS*

*LONGIROSTER Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 418, pl. 8, fig. 7; Mio-Pliocene, Italy. *FUSINUS*

LONGISPINA Coen, 1914, R. Com. Talass. Ital., v. 46, p. 25, pl. 3, fig. 11, as *brandaris* var.; Adriatic [in 1933, R. Com. Talass. Ital. Mem. 192, p. 166, pl. 5, fig. 49, as *Bolinus brandaris longispina* new var., but same as 1914]. *BOLINUS*

**longispina* Noszky, 1940, Ann. Hist. Nat. Mus. Natl. Hung., v. 33, p. 27, pl. 1, fig. 31, as *guembeli* var.; Oligocene, Hungary. *MUREX s.s.*

LONGISSIMUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3556, ref. to Chemnitz, v. 4, fig. 1344; Indian Ocean. *FUSINUS*

*LONGUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 55, pl. 4, fig. 6; Miocene, Italy. *PTERYNOTUS*

*LOPHOESSUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 98, pl. 2, fig. 5; Miocene, Australia. *CHICOREUS*

LOTORIUM Linné, 1758, Syst. Nat., ed. 10, p. 749; Indo-Pacific. *CYMATIUM*

luculentus Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 28, fig. 127; Indo-Pacific [unnecessary n.n. pro *Trophon fimbriatus* Hinds *non Murex fimbriatus* Lamarck]. *LATAXIENA*

LUGUBRIS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 61, fig. 26; East Pacific. *OCENEBRA*

lutescens Scacchi, 1836, Cat. Conch. Regni Neapolitani, p. 11 [footnote], as *craticulatus* Linné var.; Mediterranean [nude name]

*LYCHNIA [*Paziella*] Gardner, 1947, U.S. Geol. Sur., Prof. Paper 142-H, p. 523, pl. 53, figs. 12, 13; Miocene, Florida. *PANAMUREX*

*LYELLI d'Archiac & Haime, 1853, Desc. Anim. Foss. Numm. Inde, p. 310, pl. 29, fig. 24; Eocene, India.

**lyelli* Mayer, 1861, Jour. de Conchyl., v. 9, p. 66; Oligocene, France. ? *MURICOPSIS*

LYRATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3531, ref. to Martyn, v. 2, pl. 43; North Pacific. *NEPTUNEA*

lyratus Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 438, fig. 4; 1822, Anim. s. Vert., v. 7, p. 175; North Atlantic [? = *clathratus* Linné]. *BOREOTROPHON*

lyratus A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 269; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 173; West Africa [? = *angularis* Lamarck]. *HEXAPLEX*

M

MA [emend.] Costa, 1829, Cat. Test. Sicilie, p. 88; Mediterranean [orig. as *m-a* Code Art. 32(c)i]. TURRIDAE

MACGILLIVRAYI Dohrn, 1863, Proc. Zool. Soc. London, (1862), p. 203; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 162; Australia. *MUREX s.s.*

*MACGINTYI M. Smith, 1938, Nautilus, v. 51, p. 88, pl. 6, fig. 11; Pliocene, Florida. *MUREXIELLA*

*MACILENTUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 20, pl. 2, fig. 33; Eocene, England. *SURCULA*

MACLEANI [*Pterynotus*] Emerson & D'Attilio, 1969, Veliger, v. 12, p. 147, pl. 26, figs. 1-4; East Pacific. *PURPURELLUS*

*MACNEILI [*Poirieria*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 30, pl. 6, figs. 1, 2; Oligocene, Mississippi [n.n. pro *simplex* Aldrich *non* Philippi]. *PANAMUREX*

MACROPTERUS Deshayes, 1839, Rev. Zool. Soc. Cuvier, v. 2, p. 360; 1841, Mag. Zool., pl. 38; Emerson, 1964, Veliger, v. 6, pl. 19, fig. 2 (holotype); California. *PTEROPURPURA* (type)

MACULATUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 33, fig. 136; 1846, Proc. Zool. Soc. London, pt. 13, p. 108. ? *FAVARTIA*

maculatus Verrill, 1950, Nautilus, v. 63, p. 126, pl. 9, fig. 3; West Atlantic. *MUREX s.s.*

MACULOSUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3548, ref. to Chemnitz, v. 10, figs. 1552, 1553; Indo-Pacific. *COLUBRARIA* (type)

MAGELLANICUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3548, ref. to Chemnitz, v. 4, fig. 1297; South Atlantic & Pacific [? = *Buccinum geversianum* Pallas]. *TROPHON* (type)

MAGNIFICA Monterosato, 1917, Boll. Soc. Zool. Ital., (ser. 3) v. 4, p. 20, as *trunculus* var.; Mediterranean. *HEXAPLEX*

MALABARICUS E. A. Smith, 1894, Ann. Mag. Nat. Hist., (ser. 6) v. 15, p. 162, pl. 3, fig. 3; Indian Ocean. ? *MUREX s.s.*

*MAMMILLATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 152; Oligocene, Germany. TURRIDAE

MANCINELLA Linné, 1758, Syst. Nat., ed. 10, p. 751; ? Indo-Pacific [probably a species *dubium,* not "*mancinella* Linné" of authors; placed on Official Index by ICZN Opinion 911, 1970]

*MANSFIELDI Gardner, 1933, Univ. Texas Bull. 3301, p. 258, pl. 23, figs. 3-6; Paleocene, Texas. *CYMATIUM*

*MANSFIELDI [*Muricidea*] McGinty, 1940, Nautilus, v. 53, p. 83, pl. 10, fig. 5; Pleistocene, Florida. *CORALLIOPHILA*

*MANTELIANUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 200; ? Pliocene, Italy.

*MANTELLI Conrad, 1834, Jour. Acad. Nat. Sci. Phila., v. 7, p. 154; 1865, Amer. Jour. Conch., v. 1, pl. 20, fig. 11; Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, pl. 5, fig. 1 (holotype); Eocene, Alabama. *MUREXIELLA*

*MANUBRIATUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 96, pl. 1, fig. 9; Eocene, Australia. *PTEROCHELUS*

*MARCHANDI Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 32; Eocene, France [n.n. pro *subfrondosus* Cossmann *non* d'Orbigny]. *MUREXIELLA*

MARCOENSIS G. B. Sowerby III, 1900, Jour. of Malac., v. 7, p. 162, text fig. [spelled *narcoensis* under figure]; West Atlantic [? = *rubidum* Baker]. *MUREX s.s.*

*MARGARITACEUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 447, pl. 9, fig. 24; Mio-Pliocene, Italy. *TYMPANATONOS*

*MARGARITAE Cossmann & Lambert, 1884, Mém. Soc. Géol. France, (ser. 3) v. 3, p. 164, pl. 6 [not pl. 4 as cited], fig. 1; Oligocene, France. *UROSALPINX*

margaritensis [*Tritonalia*] Dall *in* M. Smith, 1939, Illus. Cat. Rock Shells, p. 16, pl. 11, fig. 4; East Pacific [not valid, no description, Code Art. 13(a); ? = *incisus* Broderip]. *FAVARTIA*

MARGARITENSIS Abbott, 1958, Acad. Nat. Sci. Phila., Mon. 11, p. 61, pl. 1, figs. n, o; Isla Margarita, Venezuela [n.n. pro *imperalis* Swainson *non* Fischer]. *PHYLLONOTUS* (type, as *imperalis* Swainson)

MARGARITICOLA Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 177; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 60, fig. 21; Indo-Pacific [? = *fiscellum* Gmelin]. *MORULA*

*MARGARITIFER "Michelotti" [error] Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 45, pl. 4, fig. 2; Miocene, Italy [for *spinicosta* Michelotti, 1861, *non* Bronn]. *MUREX s.s.*

MARIAE [*Murexsul*] Finlay, 1930, Trans. New Zealand Inst., v. 61, p. 237; Ponder, 1968, Rec. Dominion Mus., v. 6, pl. 3, figs. 33, 34; New Zealand. *MUREXSUL*

MARJORIAE Melvill & Standen, 1903, Ann. Mag. Nat. Hist., (ser. 7) v. 12, p. 308, pl. 22, fig. 10; Persian Gulf. *FAVARTIA*

*MARKSI Harris, 1894, Ann. Rept. Arkansas Geol. Sur., v. 2 (1892), p. 167, pl. 6, fig. 10; Eocene, Arkansas. *HEXAPLEX*

MARMORATUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 101.

MAROCCENSIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3558, ref. to Chemnitz, v. 9, fig. 896; ? West Atlantic. *SINISTRALIA* (type)

*MARTILLACENSIS [*Ocenebra*] Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 212, pl. 13, figs. 35, 36, as *sublavatus* var.; Miocene, France. ? *HEXAPLEX*

MARTINETANA [*Purpura*] Röding, 1798, Museum Boltenianum, p. 141, ref. to Chemnitz, v. 10, figs. 1536, 1537 [see also *fenestratus* Dillwyn, *fenestrella* Schröter]. ? *PTERYNOTUS*

*MARTINI [*Muricopsis*] Fischer, 1927, Paläont. Timor, v. 15, p. 80, pl. 213, figs. 53, 54; Pliocene, Timor. *JANIOPSIS*

martinianus Pfeiffer, 1840, Krit. Reg. Martini & Chemnitz, p. 7 [= *alata* Röding, both for Martini, v. 3, figs. 1036, 1037; also = *pinnatus* Swainson]. *PTERYNOTUS*

martinianus Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 18, fig. 72; 1846, Proc. Zool. Soc. London, pt. 13, p. 88; Indo-Pacific [= *unidentatus* G. B. Sowerby II, subsequently erroneously placed in synonymy of *rarispina* Lamarck (*i. e. trapa* Röding) by G. B. Sowerby II, 1841]. *MUREX s.s.*

*MATTHEWSENSIS Aldrich, 1886, Geol. Sur. Alabama, Bull. 1, pt. 1, p. 18, pl. 3, fig. 15; Paleocene, Alabama. *PTERYNOTUS*

matthewsoni "Aldrich" Dall, 1890, Trans. Wagner Free Inst. Sci., v. 3, pt. 1, p. 142 [err. pro *matthewsensis* Aldrich]

MAURUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 174; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 59, fig. 12; Indo-Pacific. *CHICOREUS*

*MAURYAE [*Poirieria*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 36, pl. 6, fig. 8; Miocene, Florida. *PANAMUREX*

*MAXILLARIS Millet, 1866, Paléont. Maine et Loire, p. 17; Miocene, France.

**maxillosus* Bonelli *in* Michelotti, 1841, Monografia *Murex,* p. 22 [in synonymy of *angulosus* Brocchi; as *Jania maxillosa* Bonelli *in* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 149, pl. 11, fig. 6]; Miocene, Italy. *JANIOPSIS*

*MAYERI Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 77, pl. 6, fig. 3; Miocene, Italy. *PTERYNOTUS*

MEDICAGO Watson, 1897, Jour. Linn. Soc. London, v. 26, p. 242; Madiera Islands. *MURICOPSIS*

*MEDIFOSSUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 265, as *trunculus* var. (for Michelotti, 1841, pl. 3, figs. 4, 5) Miocene, Italy. *HEXAPLEX*

mediterraneus Jousseaume, 1893, Bull. Soc. Géol. France, (ser. 3) v. 21, p. 400 [nude name, unless described elsewhere, not found]. ? *BURSA*

MEGACERUS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 60, fig. 18; 1841, Proc. Zool. Soc. London, pt. 8, p. 145; West Africa. *CHICOREUS*

MELANAMATHOS Gmelin, 1791, Syst. Nat., ed. 13, p. 3527, ref. to Martini, v. 3, fig. 1015; West Africa. *HOMALOCANTHA*

*MELANIAEFORMIS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 149; Eocene, Italy. CERITHIACEA

*MELANOIDES [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 152; Triassic, Germany. CERITHIACEA

melanoleuca Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 96; Gulf of California [unnecessary n.n. pro *nigrita* Philippi *non* Meuschen; specimens in Mörch collection are *ambiguus* Reeve, *fide* Keen, 1966, Calif. Acad. Sci. Occ. Pap. 59, p. 24]. *HEXAPLEX*

MELANOSTOMA Jeffreys, 1869, Brit. Conch., v. 5, p. 218, as *erinaceus* var.; East Atlantic. *OCENEBRA*

MELONGENA Linné, 1758, Syst. Nat., ed. 10, p. 751; West Atlantic. *MELONGENA* (type)

melonulus Lamarck, 1822, Anim. s. Vert., v. 7, p. 171; West Africa [= *rosarium* Röding, both for Chemnitz, v. 10, figs. 1528, 1529]. *HEXAPLEX*

*MEMBRANACEUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 55, pl. 4, fig. 7; Miocene, Italy. *PTERYNOTUS*

*MENEGHINIANUS D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, p. 320, pl. 4, fig. 3; Pliocene, Italy [? = *Purpura edwardsi* Payraudeau]. *OCINEBRINA*

*MENEGHINII Libassi, 1859, Atti Accad. Sci. Lett. Palermo, (n.s.) v. 3, p. 42, pl. 1, fig. 20; Miocene, Italy [? = *absonus* Cristofori & Jan]. *MUREXIELLA*

*MERANGIANUS Martin, 1921, Samml. Geol. Reichmus. Leiden, (n.s.) v. 1, No. 2, pt. 3, p. 465, pl. 59, fig 51; Miocene, Java ? *HINDSIA*

*MERIDIONALIS [*Boreotrophon*] Olsson, 1964, Neogene Moll. N.W. Ecuador, p. 140, pl. 26, fig. 5; Mio-Pliocene, Ecuador. *PAZIELLA*

MESSORIUS G. B. Sowerby II, 1841, Conch. Illus., *Murex*, pl. 194, fig. 93; 1841, Proc. Zool. Soc. London, pt. 8, p. 137; Vokes, 1967, Tulane Stud. Geol., v. 5, No. 2, pl. 1, fig. 1 (lectotype); West Atlantic. *MUREX s.s.*

METAXA della Chiaje, 1828, Mem. Anim. s. Vert. Napoli, v. 3, p. 222; Mediterranean. ? *CERITHIOPSIS*

*MEUNIERI Cossmann & Lambert, 1884, Mém. Soc. Géol. France, (ser. 3) v. 3, p. 166, pl. 6, fig. 4; Oligocene, France. ? *MUREXSUL*

mexicana Stearns, 1894, Proc. U. S. Nat. Mus., v. 16, p. 345, as *palmarosae* var.; M. Smith, 1939, Illus. Cat. Rock Shells, pl. 11, fig. 7 (holotype); Indo-Pacific [? = *torrefactus* G. B. Sowerby II; see *colpos* Dall, n.n.]. *CHICOREUS*

MEXICANUS Petit de la Saussaye, 1852, Jour. de Conchyl., v. 3, p. 51, pl. 2, fig. 9; West Atlantic [? = *pomum* Gmelin]. *PHYLLONOTUS*

MEYENDORFFII Calcara, 1845, Cenno Moll. Sicilia, p. 38, pl. 4, fig. 22; Mediterranean. *LATIMUREX* (type)

*MICHELOTTII Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 80, pl. 6, fig. 6; Pliocene, Italy. *CHICOREUS*

**michelottii* Noszky, 1940, Ann. Nat. Hist. Mus. Natl. Hung., v. 33, p. 28, pl. 1, fig. 32, as *rudis* Borson var.; Oligocene, Hungary. ? *HEXAPLEX*

*MICROMERIS Dall, 1890, Trans. Wagner Free Inst. Sci., v. 3, pt. 1, p. 141, pl. 12, fig. 12; Pliocene, Florida [in part = *Ocenebra minirosea* Abbott, for the Recent specimens included by Dall]. ? *OCENEBRA*

MICROPHYLLUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 415, fig. 5; 1822, Anim. s. Vert., v. 7, p. 163; Indo-Pacific. *CHICOREUS*

*MICROPTERUS Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 596, pl. 82, figs. 3, 4; Eocene, France. *PTERYNOTUS*

*MIGARUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 243, as *craticulatus* Brocchi var.; Pliocene, Italy. ? *OCINEBRINA*

*MIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 244, as *craticulatus* Brocchi var; Pliocene, Italy ? *OCINEBRINA*

**migus* de Gregorio, 1890, Ann. Paléont. Géol., livr. 7, p. 95, pl. 7, figs. 30-33; ? Oligocene, Mississippi [? = *stetopus* de Gregorio]. *PHYLLONOTUS*

MILIARIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3536, ref. to Chemnitz, v. 10, figs. 1532-1535; Indo-Pacific. *VITULARIA* (type, as *tuberculata* Swainson)

*MILLVILLENSIS Richards & Harbison, 1942, Proc. Acad. Nat. Sci. Phila., v. 94, p. 212, pl. 19, fig. 16; Miocene, New Jersey. *PHYLLONOTUS*

*MINAX Solander *in* Brander, 1766, Foss. Hantoniensia, p. 30, pl. 5, fig. 62; Eocene, England. *CORNULINA*

MINDANAOENSIS [emend.] G. B. Sowerby II, 1841, Conch. Illus., *Murex*, pl. 194, fig. 92 [as *mindinaoensis*]; 1841, Proc. Zool. Soc. London, pt. 8, p. 139 [as *mindanaensis*]; Indo-Pacific. *MUREX s.s.*

minima Pallary, 1900, Jour. de Conchyl., v. 48, p. 282, as *inermis* Philippi var.; Mediterranean [? new variety here; nude name]. *MURICOPSIS*

minima Dautzenberg, 1910, Actes Soc. Linn. Bordeaux, v. 64, p. 108, as *hoplites* var.; West Africa. *HEXAPLEX*

**minima* Montanaro, 1935, Palaeont. Ital., v. 35, p. 24, pl. 2, figs. 3, 4, as *rudis* Borson var.; Miocene, Italy. *HEXAPLEX*

MINIMUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3564, ref. to Lister, pl. 1018, fig. 81; West Atlantic. *BATILLARIA*

MINOR Monterosato, 1878, Enum. e Sinon., p. 41 [nude name]; *in* Bucquoy, Dautzenberg & Dollfus, 1882, Moll. Mar. Roussillon, p. 25, as *aciculatus* var.; Mediterranean. *OCINEBRINA* _minor_ Euthyme, 1889, Bull. Soc. Malac. France, v. 6, p. 267, as _cnissodus_ var.; Indo-Pacific. _CHICOREUS_

*_minor_ Almera & Bofill, 1898, Bol. Com. Mapa Geol. España, (ser. 2) v. 4, p. 11, as _scalaris_ var.; Pliocene, Spain [nude name]. _OCINEBRINA_

MINUSCULUS M. Smith, 1947, Nautilus, v. 61, p. 54, pl. 2, fig. 8, as _vittatus_ var.; East Pacific [? = _lappa_ Broderip]. _MUREXIELLA_

MINUTISSIMUS J. Adams, 1797, Trans. Linn. Soc. London, v. 3, p. 65; East Atlantic.

MINUTUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 107.

*_minutus_ Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 123, pl. 8, fig. 12; Miocene, Italy. _CORALLIOPHILA_

*_minutus_ Johnston, 1880, Proc. Roy. Soc. Tasmania, (1879), p. 32; Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, pl. 10, fig. 14; Miocene, Tasmania. ? _TROPHON_

*MIOINCRASSATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 22, pl. 6, fig. 21, as _craticulatus_ Brocchi var.; Miocene, Italy. _HADRIANIA_

*MIOMUTICA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 21, pl. 6, fig. 3, as _michelottii_ Bellardi var.; Miocene, Italy. _CHICOREUS_

*MIOPERCARINATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 24, pl. 6, fig. 35, as _bracteatus_ var.; Miocene, Italy. _PSEUDOMUREX_

*MIRGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 284; Neogene, Italy. _ENGINA_

*MIRISCUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 259, as _trunculus_ var. (for D'Ancona, 1871, pl. 5, fig. 1); Pliocene, Italy. _HEXAPLEX_

*MIRMIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 249, as _lassaignei_ var. (for Hörnes, 1856, pl. 24, fig. 8); Miocene, Austria. _OCENEBRA_

*_miscellus_ Bonelli _in_ Sismonda, 1842, Syn. Meth., ed. 1, p. 38; 1847, _ibid.,_ ed. 2, p. 40 [nude name, ? = _intercisus_ Michelotti]. ? _CANTHARUS_

*MISSISSIPPIENSIS Conrad, 1848, Proc. Acad. Nat. Sci. Phila., v. 3, p. 286; 1848, Jour. Acad. Nat. Sci. Phila., (n.s.) v. 1, pt. 2, p. 116, pl. 11, fig. 30; Vokes, 1967, Tulane Stud. Geol, v. 5, No. 3, pl. 1, fig. 6 (lectotype); Oligocene, Mississippi. _PHYLLONOTUS_

*MITOPICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 267, as _trunculus_ var. (for Hörnes, 1856, pl. 22, fig. 3); Miocene, Austria [? = _aquitanicus_ Grateloup]. _CHICOREUS_

MITRA Wood, 1828, Index Test., Suppl., p. 14, pl. 5, fig. 5. TURRIDAE

*MITRAEFORMIS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 425, pl. 8, fig. 20; Mio-Pliocene, Italy. _ACAMPTOCHETUS_ (type)

mitratus "Wood" Deshayes, 1843, Anim. s. Vert., ed. 2, v. 9, p. 363 [err. pro _mitra_ Wood]

MITRIFORMIS Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 25; West Africa [not preoccupied by _mitraeformis_ Brocchi, see Code Art. 57(d)]. _GENOTA_ (type)

mitriformis G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 190, fig. 75; South Africa [not = _uncinarius_ Lamarck]. _POROPTERON_

*MIXTA Bédé, 1903, Bull. Mus. Hist. Nat. Paris, v. 9, p. 374, as _trunculus_ var.; Pleistocene, Tunisia. _HEXAPLEX_

*_modiolus_ Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name]

*MOLUCCANA [_Muricopsis_] Fischer, 1921, Centrabl. Min., Stuttgart, (1921), p. 246; Pliocene, Molluccas. ? _LATIRUS_

moluccanus Gmelin, 1791, Syst. Nat., ed. 13, p. 3563; Indo-Pacific [= _sulcatus_ Born, both for Chemnitz, v. 4, figs. 1484, 1485]. _TEREBRALIA_

**mona* Bell, 1915, Geol. Mag., (decade 6) v. 2, No. 610, p. 167, as *tortuosus* J. de C. Sowerby var.; Pliocene, Isle of Man [nude name]. TROPHONINAE

MONACHUS Crosse, 1862, Jour. de Conchyl., v. 10, p. 55, pl. 1, fig. 8; Japan [? = *rorifluus* Adams & Reeve]. *CERATOSTOMA*

*MONILE Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 432, pl. 8, fig. 15; Miocene, Italy. *GEMMULA*

MONOCEROS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 188, figs. 64, 65 [not pl. 193, fig. 97 = *nuttalli* Conrad]; 1841, Proc. Zool. Soc. London, pt. 8, p. 143; East Pacific. *CERATOSTOMA*

monoceros d'Orbigny, 1841, Voyage Amér. Mérid., Moll. v. 5, pt. 3, p. 454, pl. 78, figs. 1, 2; Keen, 1966, Veliger, v. 9, pl. 1, figs. 18a, 18b (syntypes); Peru [see *fontainei* Tryon, n.n.]. *OCENEBRA*

monodon G. B. Sowerby I, 1825, Cat. Shells Tankerville, Append., p. 19; Australia [= *cornucervi* Röding, both for Martini, v. 3, figs. 987, 988 (fig. 980 cited by Sowerby in error for 988)]. *CHICOREUS* (type — *Euphyllon* Jousseaume)

monodon Eschscholtz, 1829, Zool. Atlas, v. 2, p. 10, pl. 9, fig. 1; North Pacific [? = *foliatus* Gmelin]. *CERATOSTOMA*

MONOSPINOSUS Serradell, 1912, Asoc. Cien. Nat. Barcelona, v. 1, p. 9, fig. 6, as *brandaris* var.; Mediterranean. *BOLINUS*

*MONOTROPIS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, pl. 3, fig. 4 [in text as *Trophon,* p. 111]; Eocene, Australia. *ENATIMENE*

*MONSJOVICA Almera & Bofill, 1893, Bol. Com. Mapa Geol. España, v. 19, p. 56, pl. 2, fig. 17, & pl. 3, figs. 18, 19, as *torularius* var.; Miocene, Spain. *BOLINUS*

montrouzieri "Sowerby" Paetel, 1883, Cat.-Conch. Samml., p. 3 [nude name]

moqueanus "Duval" Knudsen, 1956, *Atlantide* Rept., No. 4, p. 13 [err. pro *moquinianus* Duval]

MOQUINIANUS Duval, 1853, Jour. de Conchyl., v. 4, p. 203, pl. 5, fig. 4; West Africa. *CHICOREUS*

*MORAVICUS Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, p. 206, pl. 24, figs. 14-16; Miocene, Czechoslovakia. *ORANIA*

MOREANUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 231, as *brandaris* var. (for Deshayes, 1833, pl. 25, fig. 11); Mediterranean. *BOLINUS*

MORIFORMIS Lesson, 1844, Écho Monde Savant, v. 11, No. 23, p. 538; Hawaii.

MORIO Linné, 1758, Syst. Nat., ed. 10, p. 753; West Atlantic. *PUGILINA* (type, as *fasciata* Schumacher)

MORISAKII [*Favartia*] Kuroda & Habe *in* Habe, 1961, Coloured Illus. Shells Japan, v. 2, p. 49, pl. 25, fig. 5, Append., p. 18; Japan. ? *FAVARTIA*

morrisii "Reeve" Baker, 1891, Proc. Rochester Acad. Aci., v. 1, p. 167 [err. pro *norrisii* Reeve]

MORULUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 103.

**morulus* Conrad, 1860, Jour. Acad. Nat. Sci. Phila., (ser. 2) v. 4, pt. 3, p. 293, pl. 47, fig. 28; Paleocene, Alabama [see *harrisi* Vokes, n.n.]. *PAZIELLA*

morum Fischer de Waldheim, 1807, Mus. Demidoff, v. 3, p. 200; Indo-Pacific [= *Drupa uva* Röding, both for Martini, v. 3, figs. 970, 971]. *MORULA*

MOTACILLA Gmelin, 1791, Syst. Nat., ed. 13, p. 3530, ref. to Chemnitz, v. 10, fig. 1563; West Atlantic. *SIRATUS*

MULTICOSTATUS Eschscholtz, 1829, Zool. Atlas, v. 2, p. 11, pl. 9, fig. 4; North Pacific [? = *Trophon gunneri* Loven]. *BOREOTROPHON*

**multicostatus* Pecchioli, 1864, Atti Soc. Ital. Sci. Nat., v. 6, p. 501, pl. 5, figs. 28, 29; Pliocene, Italy [? = *binodus* Pecchioli, also *ardocus* and *capisus* de Gregorio; see *neocostatus* Cossmann, n.n.]. *MUREXSUL* *multicostatus* Serradell, 1912, Asoc. Cien. Nat. Barcelona, v. 1, p. 11, text fig., as *brandaris* var. [= pathologic *brandaris* Linné]. *BOLINUS*

multicrispatus Dunker, 1869, Novit. Conch., pt. 14, p. 126, pl. 42, figs. 1, 2; Peru [unnecessary n.n. pro *crispus* Broderip *non* Lamarck; see *tortuus* Broderip *in* Sowerby]. *HEXAPLEX*

MULTIFRONDOSUS G. B. Sowerby II, 1879, Thes. Conch., v. 4; *Murex,* p. 16, fig. 192; ? Indo-Pacific. *CHICOREUS*

MULTILAMELLOSUS Philippi, 1844, Enum. Moll. Siciliae, v. 2, p. 182, pl. 27, fig. 8; Mediterranean. *TROPHON*

MULTIPLICATUS G B. Sowerby III, 1895, Proc. Malac. Soc. London, v. 1, p. 216, pl. 8, fig. 5; Australia. *HAUSTELLUM*

MULTISPINOSUS G. B. Sowerby III, 1904, Proc. Malac. Soc. London, v. 6, p. 8, text fig.; Indo-Pacific. ? *MUREXIELLA*

**multistriata* von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat, v. 10, p. 69, as *pereger* var.; Oligocene, Germany. *MURICOPSIS*

*MULTISTRIATUS Deshayes, 1865, Anim. s. Vert. Bassin Paris, v. 3, p. 332, pl. 88, figs. 8-10; Eocene, France. *SEARLESIA*

*MULTIVARICOSUS Görges, 1941, Decheniana, v. 100A, p. 121, pl. 1, figs. 2a, b; Oligocene, Germany. *TROPHON*

mulus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 704; Indo-Pacific [= *Distorsio reticulata* Röding, both for Martini, v. 2, figs. 405, 406]. *DISTORSIO*

MUNDUS Reeve, 1849, Conch. Icon., v. 3, *Murex,* errata; Indo-Pacific [n.n. pro *exiguus* Reeve *non* Broderip]. ? *FAVARTIA*

*MURAENA Handmann, 1882, Verh. Geol. Reichsanst. Wien, (1882), p. 257; Miocene, Austria. *CHICOREUS*

MUREX [*Daphnellopsis*] Hedley, 1922, Rec. Australian Mus., v. 13, p. 356, pl. 56, figs. 196-198; Australia [embryonic shell]. *PTEROCHELUS*

*MUREXFERREUS Boettger, 1906, Verh. Mitt. Seibend. Ver. Naturw. Hermannstadt, v. 54, p. 45; Zilch, 1934, Senckenbergiana, v. 16, pl. 15, fig. 75 (holotype); Miocene, Romania. *PTEROPURPURA*

MURICATUS Montagu, 1803, Test. Brit., v. 1, p. 262, pl. 9, fig. 2; Mediterranean. *TROPHONOPSIS* (type)

**muricina* [*Turbinella*] Grateloup, 1847, Conchyl. Adour, Atlas, Turbinelles, pl. 3 [pl. 24], fig. 18; Oligocene, France [unnecessary n.n. pro *Fusus turbinelloides* Grateloup, perhaps to avoid tautonomy]. *PANAMUREX*

mutica Brugnone, 1881, Boll. Soc. Malac. Ital., v. 6, p. 100, as *brandaris* var.; Mediterranean [nude name]. *BOLINUS*

muticus Philippi, 1836, Enum. Moll. Siciliae, v. 1, p. 210, as *cristatus* Brocchi var.; Mediterranean [nude name]. *MURICOPSIS*

MYRAKEENAE [*Aspella*] Emerson & D'Attilio, 1970, Nautilus, v. 83, p. 89, figs. 1, 2; East Pacific. *DERMOMUREX*

N

**namneticus* Vasseur, 1881, Paris Ecole Prat. Haut. Études, Biblio., Ser. Sci. Nat., v. 23, pp. 175, 246; Tertiary, France [nude name]

NANUS Anton, 1839, Verz. Conch., p. 81.

**nanus* Ravn, 1939, K. Danske Vidensk. Selsk., Biol. Skr., v. 1, No. 1, p. 78, pl. 3, fig. 7; Paleocene, Denmark [?? = *harrisi* Vokes]. *PAZIELLA*

*NARICUS Vredenburg, 1925, Mem. Geol. Sur. India, v. 50, p. 213, pl. 7, fig. 13; ? Oligocene, India. ? *CHICOREUS*

*NASHI Dickerson, 1916, Univ. Calif. Publ., Bull. Geol., v. 9, No. 17, p. 495, pl. 41, fig. 7; Eocene, California. ? *CORALLIOPHILA*

NASSA Gmelin, 1791, Syst. Nat., ed. 13, p. 3551, ref. to Chemnitz, v. 4, figs. 1131-1134; West Africa. *LEUCOZONIA* (type)

NATALENSIS [*Ocinebra*] E. A. Smith, 1906, Ann. Natal Mus., v. 1, p. 38, pl. 7, fig. 9; South Africa. *FAVARTIA*

NEBULA Montagu, 1803, Test. Brit., v. 1, p. 267, pl. 15, fig. 6; North Atlantic. *BELA* (type)

*NEOCOSTATUS [*Muricopsis*] Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 35 [footnote]; Pliocene, Italy [n.n. pro *multicostatus* Pecchioli ***non*** Eschscholtz]. *MUREXSUL*

*NEOMAGENSIS Fontannes, 1879, Moll. Pliocènes Rhone et Roussillon, v. 1, p. 4, pl. 1, figs. 4, 5; Pliocene, France. *HEXAPLEX*

neozelanicus "Quoy & Gaimard" Hutton, 1887, Proc. Linn. Soc. New South Wales, v. 11 (1886), p. 207 [err. pro *zelandicus* Q. & G.]

NEREI Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 728, ref. to Chemnitz, v. 11, figs. 1867, 1868; Australia [*Triton australe* Lamarck, 1822, is the same species]. *CYMATIUM*

neritoideus Linné, 1767, Syst. Nat., ed. 12, p. 1219; Cape Verde Islands [= *Nerita nodosa* Linné]. *THAIS*

neritoideus Gmelin, 1791, Syst. Nat., ed. 13, p. 3559, ref. to Chemnitz, v. 10, figs. 1577, 1578; Indo-Pacific [? = *Purpura violacea* Kiener]. *CORALLIOPHILA* (type, as *neritoidea* Chemnitz)

*NEUGEBORENI Semper, 1861, Arch. Ver. Naturg. Mecklenburg, v. 15, p. 387; Miocene, Austria [for *plicatus* Neugeboren, 1853, & Hörnes, 1856, pl. 25, figs. 9, 10, *non* Brocchi]. *ENGINA*

*NEWTONI [*Pterynotus*] Eames, 1957, Bull. Brit. Mus. Nat. Hist., v. 3, No. 2, p. 42; Eocene, Nigeria [for "*Pteropurpura*" cf. *tricarinata* Newton, 1922, pl. 4, figs. 26, 27, *non* Lamarck]. *PTERYNOTUS*

*NEXILIS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 27, pl. 4, fig. 55; Eocene, England. *FICUS*

*NICHOLSI Gardner, 1947, U.S. Geol. Sur., Prof. Paper 142-H, p. 519, pl. 53, fig. 3; Miocene, Florida. *SIRATUS*

NIGREFASCIATUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 261, as *trunculus* var.; Mediterranean. *HEXAPLEX*

NIGRESCENS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 198, fig. 113; 1841, Proc. Zool. Soc. London, pt. 8, p. 138; ? West Atlantic [? = *messorius* G. B. Sowerby II]. *MUREX s.s.*

NIGRISPINOSUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 20, fig. 79; 1846, Proc. Zool. Soc. London, pt. 13, p. 88; Philippine Islands. *MUREX s.s.*

NIGRITA Philippi, 1845, Abbildungen Besch. Conchylien, v. 1, pt. 8, p. 191, pl. 1, fig. 1; Gulf of California. *HEXAPLEX*

nigrita "Meuschen" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 96 [= *radix* Gmelin]. *HEXAPLEX*

*NILUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 281, as *plicatus* Brocchi var. (for D'Ancona, 1871, pl. 6, fig. 2); Pliocene, Italy. *ENGINA*

*NISUS [*Muricites*] Schlotheim, 1813, Taschenb. Min., (1813), p. 92, ref. to Bourget, pl. 34, fig. 226; Cretaceous, Switzerland. ? CYMATIIDAE

NITENS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 72; Indo-Pacific. *MURICOPSIS*

*NITIDUS Pilkington, 1804, Trans. Linn. Soc. London, v. 7, p. 118, pl. 11, fig. 8; Eocene, England. TURRIDAE

nitidus Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 176; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 58, fig. 4; East Pacific [? = juvenile of *nigrita* Philippi]. *HEXAPLEX*

nivea Bucquoy, Dautzenberg & Dollfus, 1882, Moll. Mar. Roussillon, v. 1, p. 18, as *brandaris* var.; Mediterranean [for *brandaris* var. γ Linné, = Rumphius, pl. 26, fig. 4, ? = albino *brandaris* Linné]. *BOLINUS*

NIVEUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3545, ref. to Bonanni, Recr., fig. 338; Brazil [? = *Cymatium caribbaeum* Clench & Turner]. *RANULARIA*

niveus A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 270.

*NOAE Holton, 1802, Enum. Syst. Conch. Chemnitz., p. 62, ref. to Chemnitz, v. 11, figs. 2096, 2097; Eocene, France [*Fusus noae* Lamarck, 1803, is same species]. *CLAVALITHES*

*NOARCHIANUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 137; Eocene, Germany [? = *noae* Holton]. *CLAVALITHES*

NOBILE [*Haustellum*] Schumacher, 1817, Essai Vers Test., p. 214, ref. to Chemnitz, v. 11, figs. 1821, 1822 [? = *pecten* Lightfoot]. *MUREX s.s.*

NODATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3536, ref. to Martyn, v. 2, pl. 51; Indo-Pacific. *LATIRUS*

nodatus Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 25, fig. 107; West Atlantic [? = *formosus* G. B. Sowerby II, *antillarum* Hinds]. *SIRATUS*

*NODIFERUS Michelotti, 1841, Monografia *Murex,* p. 11; Miocene, Italy [see *subnodiferus* d'Orbigny, ? unnecessary n.n.]

nodosus [Lightfoot], 1786, Cat. Portland Mus., p. 34 [nude name]

*NODOSUS Borson, 1825, Mem. R. Accad. Sci. Torino, v. 29, p. 310, pl. 19, fig. 33; Pliocene, Italy. *APOLLON*

**nodosus* Schlotheim, 1832, System. Verz. Pertrefacten-Samml., p. 37 [nude name]

**nodosus* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 116, pl. 8, fig. 1; Miocene, Italy. *CORALLIOPHILA*

**nodosus* Steuer, 1912, Abh. Geol. Land. Darmstadt, v. 6, p. 24, pl. 1, figs. 5-8; Oligocene, Germany [for *lamarcki* Sandberger, 1863, *non* Grateloup]. *PTERYNOTUS*

*NODULARIUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 226; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 80, figs. 39-41; Eocene, France. *SASSIA*

*NODULATUS Young & Bird, 1828, Geol. Sur. Yorkshire, ed. 2, p. 245, pl. 11, fig. 3; Jurassic, England. *PURPUROIDEA*

NODULIFERUS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 194, fig. 94; Indo-Pacific. *MURICOPSIS*

NODULOSUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3562, ref. to Chemnitz, v. 4, figs. 1505, 1506. ? *FUSITURRIS*

**nodulosus* Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 303, pl. 1, fig. 1; Pliocene, Italy. CYMATIIDAE

NODUS Linné, 1758, Syst. Nat., ed. 10, p. 750 [species *dubium*]

NORFOLKENSIS [*Pterynotus*] Fleming, 1962, Trans. Roy. Soc. New Zealand, Zool., v. 2, No. 14, p. 117, pl. 1, figs. 18, 19; Norfolk Island. *TRIPTEROTYPHIS* (type-*Nothotyphis* Fleming)

NORRISII Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 28, fig. 129; ? East Pacific [?? = *humilis* Broderip]. *MUREXIELLA*

*NOTATUS Eichwald, 1830, Naturhist. Lithauen, p. 225; 1855, Lethaea Rossica, p. 188, pl. 8, fig. 9; Miocene, Central Europe. *CHICOREUS*

*NOTOENSIS [*Chicoreus*] Masuda, 1956, Trans. Proc. Palaeont. Soc. Japan, (n.s.), No. 21, p. 163, pl. 26, fig. 12; Miocene, Japan. ? *HEXAPLEX*

NOVAEZEELANDIAE Gray *in* G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 62, fig. 34; New Zealand [? = *zelandicus* Quoy & Gaimard]. *POIRIERIA*

NOVEMCOSTATUS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 110.

novemcostatus Serradell, 1912, Asoc. Cien. Nat. Barcelona, v. 1, p. 10, fig. 11, as *brandaris* var.; Mediterranean [? = *brandaris* Linné]. *BOLINUS*

NUBILIS G. B. Sowerby II, 1860, Proc. Zool. Soc. London, pt. 27, p. 428, pl. 49, fig. 4; Australia [? = *denudata* Perry]. *CHICOREUS*

nucalis Locard, 1892, Coq. Marin. Côtes France, p. 100; Mediterranean [unnecessary n.n. pro *Purpura nux* Reeve, 1846, *non Murex nux* Reeve, 1846]. *OCINEBRINA*

NUCEUS Mörch, 1850, Cat. Conch. Kierulf, p. 31, pl. 1, fig. 9; West Atlantic. *FAVARTIA*

NUCLEUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 58, fig. 2; Galápagos. ? *CORALLIOPHILA*

NUCULA Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 29, fig. 131; Indo-Pacific [? = *cyclostoma* G. B. Sowerby II]. *FAVARTIA*

nucula Monterosato, 1878, Enum. e Sinon., p. 41; Mediterranean [nude name]. ? *OCINEBRINA*

*NUDUS Noszky, 1936, Ann. Hist. Nat. Mus. Natl. Hung., v. 30, p. 63, pl. 5, fig. 9, as *trigonalis* var.; Oligocene, Hungary. *CHICOREUS*

NUTTALLI Conrad, 1837, Jour. Acad. Nat. Sci. Phila., v. 7, p. 264, pl. 20, fig. 22; California. *CERATOSTOMA* (type)

NUTTINGI Dall, 1896, Bull. Lab. Nat. Hist. Univ. Iowa, v. 4, No. 1, pt. 2, p. 13, pl. 1, fig. 1; West Atlantic. *PAZIELLA* (type — *Dallimurex* Rehder)

NUX Reeve, 1846, Conch. Icon., v. 3, *Murex,* pl. 35, fig. 181. *CORALLIOPHILA*

*NYSTI Rouault, 1850, Mém. Soc. Géol. France, (ser. 2) v. 3, p. 494, pl. 17, fig. 20; Eocene, France. *MUREXSUL*

**nysti* von Koenen, 1867, Palaeontographica, v. 16, pt. 2, p. 67; *ibid.,* pt. 3, pl. 12, fig. 2; Miocene, Belgium [for *tortuosus* Nyst, 1843, pl. 41, fig. 14, *non* J. de C. Sowerby; ? = *parvifolia* Kautsky]. TROPHONINAE

O

OBELISCUS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 269; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 233; West Mexico. *DERMOMUREX*

*OBLITUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 22, pl. 2, fig. 41; Eocene, England. *CALYPTRAPHORUS*

OBLONGA [*Muricopsis*] Stalio *in* Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, pl. 6, fig. 61, as *blainvillei* var.; Adriatic. *MURICOPSIS*

*OBLONGUS "Renieri" Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 429, pl. 8, fig. 5; Pleistocene-Recent, Italy. *CLAVUS*

**oblongus* Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 100; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 13; Miocene, France [see *suboblongus* d'Orbigny, n.n.]. *FAVARTIA*

**obtusa* Montanaro, 1935, Palaeont. Ital., v. 35, p. 16, pl. 1, fig 9, as *cirratus* var.; Miocene, Italy. ? *MUREXSUL*

*OBTUSANGULUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 422, pl. 8, fig. 19; Miocene, Italy. *BRACHYTOMA*

*OBTUSICOSTA Sandberger *in* Wolff, 1897, Palaeontographica, v. 43, p. 277, pl. 26, fig. 25; pl. 27, fig. 2; Oligocene, Germany.

*OBTUSUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 82, pl. 6, fig. 8; Miocene, Italy. *CHICOREUS*

obtusus G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 30, fig. 113 [not fig. 173 as cited]; ? East Pacific [n.n. pro *octogonus* G. B. Sowerby II *non* Quoy & Gaimard, see also *sowerbyi* Kobelt; ? = *norrisii* Reeve, ? = *humilis* Broderip]. *MUREXIELLA*

obtusus G. B. Sowerby III, 1894, Proc. Malac. Soc. London, v. 1, p. 41, pl. 4, fig. 8; Mauritius. *FAVARTIA*

OCCA G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 64, fig. 45; 1841, Proc. Zool. Soc. London, pt. 8, p. 137; Indo-Pacific. *MUREX s.s.*

*OCCIDENTALIS Peyrot, 1938, Actes Soc. Linn. Bordeaux, v. 89, Suppl., p. 183, pl. 3, figs. 13, 16, as *vindobonensis* Hörnes var.; Miocene, France. *OCENEBRA*

OCHRACEUS Schröter, 1805, Archiv Zool. (Weidemann), v. 4, p. 112.

OCTOGONUS Quoy & Gaimard, 1833, Voyage *Astrolabe,* v. 2, p. 531, pl. 36, figs. 8, 9; Australia. *MUREXSUL* (type)

octogonus G. B. Sowerby II, 1860, Proc. Zool. Soc. London, pt. 27, p. 428, pl. 49, fig. 7; ? East Pacific [see *obtusus* G. B. Sowerby II, n.n., also *sowerbyi* Kobelt, n.n.; ? = *norrisi* Reeve, ? = *humilis* Broderip]. *MUREXIELLA*

*OCTONARIUS Beyrich, 1854, Zeitsch. Deutsch. Geol. Gesell., v. 6, p. 754, pl. 13, figs. 7, 8; Miocene, Germany. *FLEXOPTERON*

OCTONUS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 62, fig. 32; West Africa [? = *angularis* Lamarck]. *HEXAPLEX*

octonus Gray *in* G. B. Sowerby II, 1841, Conch. Illus., *Murex* Catalogue, p. 8 [in synonymy of *dipsacus* Broderip]; East Pacific. *MUREXIELLA*

OCULATUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 9, fig. 36; 1846, Proc. Zool. Soc. London, pt. 13, p. 86; West Atlantic. *PHYLLONOTUS*

*OGORMANI Cossmann *in* O'Gorman, 1923, Gisement Cusien de Gan, p. 93, pl. 6, figs. 30-34; Eocene, France. *PAZIELLA*

OLEARIUM Linné, 1758, Syst. Nat., ed. 10, p. 748; Mediterranean. *RANELLA* (type, as *gigantea* Lamarck)

OLIGOCANTHUS Euthyme, 1889, Bull. Soc. Malac. France, v. 6, p. 269, pl. 7, figs. 2, 3; Indo-Pacific. *CHICOREUS*

OLSSONI E. H. Vokes, 1967, Tulane Stud. Geol., v. 5, No. 2, p. 84, pl. 3, figs. 1-3; Pliocene—Recent, West Atlantic [in part for *recurvirostris* of some authors]. *MUREX s.s.*

onagrina [*Purpura*] Röding, 1798, Museum Boltenianum, p. 139; Indo-Pacific [= *miliarus* Gmelin, both for Martini, v. 3, vign. 36, figs. 1-5]. *VITULARIA*

*OOSTINGHI Wissima, 1947, Tert. Quater. Gastrop. Nias (Malay Arch.), Thesis, Leiden, p. 172, pl. 6, fig. 148, as *bantamensis* var.; Plio-Pleistocene, Indonesia. *MUREX s.s.*

*OPPENHEIMII [*Muricopsis*] Fabiani, 1908, Mem. Soc. Ital. Sci., (ser. 3) v. 15, p. 129, pl. 3, fig. 20; Eocene, Italy.

ORBIGNIANUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 193; Mediterranean [? = *erinaceus* Linné]. *OCENEBRA*

ORCOMENUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 57; Adriatic.

OREGONIA Bullis, 1964, Tulane Stud. Zoology, v. 11, No. 4, p. 106, figs. 5, 6; West Atlantic. *PAZIELLA*

*ORETEUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 241, as *craticulatus* Brocchi var.; Pleistocene, Italy. *HADRIANIA*

*ORGELLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 237 (for Hörnes, 1856, pl. 25, fig. 14); Miocene, Austria. *OCENEBRA*

**ornata* Bongo, 1914, Boll. Soc. Geol. Ital., v. 33, p. 407, pl. 7, fig. 4, as *craticulatus* Brocchi var.; Miocene, Italy. *HADRIANIA*

*ORNATUS Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 98; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 11; Oligocene, France. *PTERYNOTUS*

OSSEUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 14, fig. 60; West Africa [? = *gambiensis* Reeve]. *PURPURELLUS*

OSTREARUM Conrad, 1846, Proc. Acad. Nat. Sci. Phila., v. 3, p. 25; Dall, 1902, Proc. U. S. Nat. Mus., v. 24, pl. 30, fig 2; West Atlantic. *CALOTROPHON* (type—*Pseudosalpinx* Olsson & Harbison, as *floridana* Conrad)

*OTWAYENSIS Harris, 1897, Cat. Tert. Moll. Brit. Mus., pt. 1, p. 177, pl. 6, fig. 5; Eocene, Australia. *PTEROCHELUS*

OVALIS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 100.

OVATA [*Hexaplex*] Perry, 1811, Conchology, pl. 8, fig. 6; ? Indo-Pacific. *HEXAPLEX*

*OVULATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 65, pl. 4, fig. 15; Miocene, Italy. *CHICOREUS*

OXYCANTHA Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 76; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 59, fig. 11; East Pacific. *HOMALOCANTHA*

*OXYTATA M. Smith, 1938, Nautilus, v. 51, p. 89, pl. 6, fig. 6, as *hexagonus* Lamarck var.; Pliocene, Florida [? = *hexagonus* Lamarck]. *MURICOPSIS*

P

*PACHYSTIRUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 102, pl. 2, fig. 11; Miocene, Australia. *TAKIA*

PACIFICUS Lichtenstein, 1794, Cat. Rerum Nat., v. 2, p. 83.

*PACKARDI Dickerson, 1915, Proc. Calif. Acad. Sci., (ser. 4) v. 5, p. 69, pl. 9, fig. 6; Eocene, Washington. *PTERYNOTUS*

**packardi* Clark, 1915, Univ. Calif. Publ., Bull. Geol., v. 8, No. 22, p. 501, pl. 69, figs. 2, 11; Miocene, California [see *rodeoensis* Clark, n.n.]. ? *OCENEBRA*

PAGODULA Mayer, 1874, Jour. de Conchyl., v. 22, p. 314, pl. 11, fig. 9; Pliocene, Italy. *BABELOMUREX*

pagodula Pallary, 1903, Ann. Mus. Hist. Nat. Marseille, Zool. v. 8, p. 6, pl. 1, figs. 1, 2, as *trunculus* var.; Mediterranean [? = *trunculus* Linné]. *HEXAPLEX*

PAGODUS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 269; Japan. *LATIAXIS*

**pagodus* Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name]

PAINEI Dall, 1904, Proc. Biol. Soc. Washington, v. 16, p. 174; 1921, U. S. Nat. Mus., Bull. 112, pl. 6, fig. 1; Northeast Pacific. *OCENEBRA*

PAIRODOA Risso, 1826, Hist. Nat. Europe, v. 4, p. 195; Mediterranean [see *payraudeau* Blainville]

*PALENSIS Magne, 1941, Jour. de Conchyl., v. 84, p. 371; Eocene, France [for *tricarinatus* Cossmann, 1923, pl. 6, figs. 24, 25, *non* Lamarck]. *PTERYNOTUS*

PALLIDA [*Aranea*] Perry, 1811, Conchology, pl. 46, fig. 5; Africa [? = *brevispina* Lamarck]. *MUREX s.s.*

pallidus Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 194; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 58, fig. 3; Falkland Islands [as *Aranea* is a synonym of *Murex s.s.,* this is preoccupied by *Aranea pallida* Perry]. ? *TROPHON*

PALMAROSAE Lamarck, 1822, Anim. s. Vert., v. 7, p. 161, ref. to Lister, pl. 946, fig. 41; Ceylon [this species is a subjective synonym of *Triplex foliatus* Perry, 1810, therefore, Keen has requested the ICZN to declare *foliatus* a *nomen oblitum* and conserve *palmarosae* (1964, Bull. Zool. Nomen., v. 21, pp. 422-428)[5]; see also *rosaria* Perry]. *CHICOREUS*

PALMIFERUS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 195, fig. 104; 1841, Proc. Zool. Soc. London, pt. 8, p. 142; Australia [? = *denudata* Perry]. *CHICOREUS*

PAPILLA Wood, 1828, Index Test., Suppl., p. 14, pl. 5, fig. 2. ? *BURSA*

*PAPIOLENSIS Almera & Bofill, 1893, Bol. Com. Mapa Geol. España, v. 19, p. 100, pl. 7, figs. 59, 60, as [*Fusus*] *caelatus* Grateloup var.; Pliocene Spain. *OCINEBRINA*

PAPYRACEUS Gravenhorst, 1807, Vergl. Uebers. Zool. Syst., p. 32.

*PARADOXICUS Jenkins, 1864, Quart. Jour. Geol. Soc. London, v. 20, p. 51, pl. 6, fig. 2; Tertiary, Java. ? *THAIS*

PARDALIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3557, ref. to Chemnitz v. 4, fig. 1384. FASCIOLARIIDAE

PARTHENOPEUS Salis, 1793, Reisen Neapel, v. 1, p. 370, ref. to Chemnitz, v. 4, fig. 1252; Mediterranean. *MONOPLEX* (type, as *australaisae* Perry)

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[5] While this paper was in press the ICZN so ruled in Opinion 911, June, 1970; unfortunately this action does not take into account *Triplex rosaria* Perry, which is not preoccupied by "*Purpura*" *rosarium* Röding, a *Hexaplex,* unless all are placed in *Murex s.l.*

*PARTSCHI Hörnes, 1853, Foss. Moll. Wien, v. 1, *in* Abh. K.K. Geol. Reichsanst., v. 3, p. 258, pl. 26, fig. 5; Miocene Austria [? = *borsoni* Michelotti; see note after *borni* Hörnes]. *BOLINUS*

*PARVOLIGUSTICA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 20, pl. 5, figs. 28, 29, as *constantiae* var.; Pliocene, Italy. *PAZIELLA*

*PARVULMICROPTERUS de Gregorio, 1880, Faune S. Giovanni Ilarione, pt. 1, fasc. 1, p. 96, pl. 7, fig. 54; Eocene, Italy. ? *PTERYNOTUS*

PATAGIATUS Hedley, 1912, Rec. Australian Mus., v. 8, p. 151, pl. 43, fig. 36; Australia. *PTERYNOTUS*

PATAGONICUS d'Orbigny, 1841, Voyage Amér. Mérid., Moll., v. 5, pt. 3, p. 452, pl. 62, figs. 2, 3; Patagonia [? = *lamellosus* Gmelin]. *TROPHON*

PATRUELIS E. A. Smith, 1891, Proc. Zool. Soc. London, (1890), p. 259, pl. 23, fig. 6; South Atlantic. *CORALLIOPHILA*

*PATULUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 116, pl. 7, fig. 18; Miocene, Italy. *OCINEBRINA*

**paucilirata* "Gabb" Tryon, 1880, Man. Conch., v. 2, p. 115 [err. pro *paucivaricata* Gabb]

*PAUCISPINATUS Roth v. Telegd, 1915, Geol. Hungarica, v. 1, p. 12, pl. 1, figs. 8-11; Oligocene, Hungary [? = *beyrichi* von Koenen, *borsoni* Michelotti, etc.]. *BOLINUS*

*PAUCIVARICATA [*Muricidea*] Gabb, 1869, Paleontology [of California], v. 2, pp. 43, 69, pl. 14, fig. 1; Pleistocene, California [? = *monoceros* G. B. Sowerby II]. *CERATOSTOMA*

*PAULI Tournouër *in* Benoist, 1880, Actes Soc. Linn. Bordeaux, v. 34, p. 169, as *heptagonatus* var.; Cossmann & Peyrot, 1923, *ibid.,* v. 75, pl. 13, figs. 40, 41 [only]; Miocene, France. *HOMALOCANTHA*

**pauli* Hilber, 1882, Abh. K. K. Geol. Reichsanst., v. 7, No. 6, p. 5, pl. 1, fig. 6; Miocene, Poland. ? *JANIOPSIS*

**paulucciae* "Michelotti" Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 20 [? *lapsus* for Paulucci, an author]

PAUPER Watson, 1883, Jour. Linn. Soc. London, v. 16, p. 604; 1885, *Challenger* Report, Zool., v. 15, pt. 2, pl. 10, fig. 8; Indo-Pacific. *CRONIA*

PAUPERCULUS C. B. Adams, 1850, Cont. to Conch., v. 1, No. 4, p. 60; Clench & Turner, 1950, Occ. Pap. Moll., v. 1, No. 15, pl. 39, fig. 16 (lectotype); West Atlantic. *DERMOMUREX*

PAUSIA Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 61 [? = *politus* Renier *in* Brocchi, ? = *scriptus* Linné]. *MITRELLA*

*PAUWELSII de Koninck, 1838, Mém. Acad. Roy. Sci. Lett. Bruxelles, v. 11, p. 13, pl. 2, fig. 1; Oligocene, Belgium. *POIRIERIA*

PAUXILLUS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 71; Tryon, 1880, Man. Conch., v. 2, pl. 29, fig. 264; Gulf of California. *MURICOPSIS*

payraudeau Blainville, 1829, Faune Française, p. 207; Mediterranean [emendation (? justified) for *pairodoa* Risso]

PAZI Crosse, 1869, Jour. de Conchyl., v. 17, p. 183; 1870, *ibid.,* v. 18, pl. 1, fig. 4; West Atlantic. *PAZIELLA* (type)

PEASEI Tryon, 1880, Man. Conch., v. 2, p. 129, pl. 38, fig. 462; Gulf of California (n.n. pro *foveolatus* Pease *non* Hinds). *FAVARTIA*

*PECCHIOLIANUS D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, p. 336, pl. 5, fig. 3; Pliocene, Italy. *HEXAPLEX*

**pecchiolii* Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 28 [unjustified emendation for *pecchiolianus* D'Ancona]. *HEXAPLEX*

PECTEN [Lightfoot], 1786, Cat. Portland Mus., p. 188, ref. to Rumphius, pl. 26, fig. 3, as *tribulus* var.; Indo-Pacific [*triremis* Perry & *tenuispina* Lamarck are same species]. *MUREX s.s.*

pecten Montfort, 1810, Conchyl. Syst., v. 2, p. 619, text fig. p. 618; Indo-Pacific [? = *pecten* Lightfoot, Montfort cited different figures but both they and his own illustration are clearly all the same as *pecten* Lightfoot]. *MUREX s.s.*

*PECTITUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 122, pl. 8, fig. 10; Miocene, Italy. *CORALLIOPHILA*

PELE Pilsbry, 1918, Nautilus, v. 31, pl. 9, figs. 9, 12 [not in text]; 1921, Proc. Acad. Nat. Sci. Phila., v. 72, p. 318, pl. 12, figs. 29, 30; Indo-Pacific. [This is *anatomica* Perry of most authors, while true *anatomica* is the same as *rota* Mawe.] *HOMALOCANTHA*

PELLUCIDUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 14, fig. 54; 1846, Proc. Zool. Soc. London, pt. 13, p. 87; Indo-Pacific. *PTERYNOTUS*

PENCHINATI Crosse, 1861, Jour. de Conchyl., v. 9, p. 351, pl. 16, fig. 6; Indo-Pacific [the *penchinati* of most authors is *trivialis* Adams, another species]. *CHICOREUS*

*PENGHUENSIS Hayasaka, 1960, Trans. Proc. Palaeont. Soc. Japan, (n.s.) No. 38, p. 272, pl. 31, fig. 19; Pleistocene, Taiwan. *HEXAPLEX*

*PENNAE Maury, 1925, Serv. Geol. Min. Brasil Mon. 4, pp. 140-141, pl. 6, fig. 4; Miocene, Brazil. *MUREX s.s.*

*PENTAGONATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 148; Eocene, (?) Italy [? = *angulatus* Solander]. *PYRAZUS*

*PENTAGONUS Karsten, 1849, Verz. Rostock Mus., p. 28; Oligocene, Germany [? = *capito* Philippi]. *POIRIERIA*

*PENTODON Fischer & Tournouër *in* Gaudry, 1873, Anim. Foss. Mont Léberon, p. 119, pl. 17, fig. 1; Miocene, France. *OCINEBRINA*

*PERAMANGUS Ludbrook, 1941, Trans. Roy. Soc. So. Aust., v. 65, p. 95, pl. 5, fig. 24; Pliocene, Australia. *BOLINUS*

*PERANGULATUS Nomland, 1916, Univ. Calif. Publ., Bull. Geol., v. 9, No. 14, p. 206, pl. 11, fig. 1; Pliocene, California. *CERATOSTOMA*

PERATUS [*Phyllonotus*] Keen, 1960, Nautilus, v. 73, p. 105, pl. 10, fig. 6; East Pacific. *PHYLLONOTUS*

PERCOIDES Löbbecke, 1879, Jahr. Deutsch. Malak. Gesell., v. 6, p. 78; 1880, *ibid.*, v. 7, pl. 3, fig. 1; ? West Atlantic [?? = *beauii* Fischer & Bernardi]. *SIRATUS*

PERCUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 265, as *trunculus* var.; Mediterranean. *HEXAPLEX*

*PEREGER Beyrich, 1854, Zeitsch. Deutsch. Geol. Gesell., v. 6, p. 759, pl. 14, fig. 1; Oligocene, Germany. *MURICOPSIS*

pereger Brugnone, 1873, Misc. Malac., v. 1, p. 10, fig. 17; Mediterranean. *OCINEBRINA*

PERELEGANS [*Chicoreus*] E. H. Vokes, 1965, Tulane Stud. Geol., v. 3, No. 4, p. 196; West Atlantic [n.n. pro *elegans* G. B. Sowerby II *non* Donovan, etc.]. *SIRATUS*

*PERENTUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 283 (for D'Ancona, 1871, pl. 4, fig. 2); Pliocene, Italy. *ENGINA*

**perfoliatus* Bonelli *in* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 74, pl. 5, fig. 7; Miocene, Italy [= *pseudophyllopterus* Michelotti (MS name cited in synonymy by Michelotti, accepted by Bellardi)]. *PTERYNOTUS*

PERIGMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 253, as [*Purpura*] *edwardsi* var. (for Bucquoy, Dautzenberg & Dollfus, 1882, pl. 2, fig. 3); Mediterranean. *OCINEBRINA*

PERILUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 253, as [*Purpura*] *edwardsi* var.; Mediterranean. *OCINEBRINA*

*PERISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 244, as *craticulatus* Brocchi var. (for Hörnes, 1856, pl. 25 [err. pro pl. 24], fig. 11); Miocene, Austria [see also *erpis* de Gregorio, as first revisor the writer selects *perisus,* which has page priority]. *HADRIANIA*

PERITUS Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 129; 1844, Voyage *Sulphur,* Zool., Moll., pl. 3, figs. 23, 24; East Pacific. *MUREXIELLA*

*PERLONGUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 75, pl. 5, fig. 8; Miocene, Italy. *PTERYNOTUS*

PERMAESTUS Hedley, 1915, Proc. Linn. Soc. New South Wales, v. 39, p. 745, pl. 85, fig. 91; Indo-Pacific [? unnecessary n.n. pro *capucinus* auctores *non* Lamarck, see that name for further discussion]. *NAQUETIA*

*PERMAGNA Schaffer, 1912, Abh. K. K. Geol. Reichsanst., v. 22, p. 144, pl. 50, figs. 18, 19, as *deshayesii* var.; Miocene, Austria [for *capito* Hörnes, 1856, pl. 23, fig. 10, *non* Philippi]. *FLEXOPTERON*

**pernutus* de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 245, as *craticulatus* Brocchi var. (for Hörnes, 1856, pl. 25 [err. pro pl. 24], fig. 12); Miocene Austria [= *schoenni* Hörnes]. *OCINEBRINA*

PERPLEXA [*Aspella*] Keen, 1958, Bull. Amer. Paleont., v. 38, No. 172, p. 248, pl. 30, fig. 11 [only]; East Pacific [? = *indentata* Carpenter]. *DERMOMUREX*

*PERPLEXUS Fischer & Tournouër *in* Gaudry, 1873, Anim. Foss. Mont Léberon, p. 120, pl. 16, figs. 5, 6; Miocene, France. *OCENEBRA*

*PERPLEXUS [*Cantharus*] Olsson & Harbison, 1953, Acad. Nat. Sci. Phila., Mon. 8, p. 255, pl. 37, fig. 1; Pliocene, Florida [? = *ostrearum* Conrad]. *CALOTROPHON*

*PERPULCHER Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 66, pl. 5, fig. 2; Miocene, Italy [? = *truncatulus* Foresti]. *HEXAPLEX*

PERRON Gmelin, 1791, Syst. Nat., ed. 13, p. 3559, ref. to Chemnitz, v. 10, figs. 1573, 1574; West Africa. *PERRONA* (type, as *P. tritonium* Schumacher)

PERUVIANUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 419, fig. 5; Peru. *TROPHON*

peruvianus G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 195, fig. 103; 1841, Proc. Zool. Soc. London, pt. 8, p. 147; New Zealand [? = *cuvierensis* Finlay, ? = *octogonus* Q. & G.]. *MUREXSUL*

PERVERSUS Linné, 1758, Syst. Nat., ed. 10, p. 753; West Atlantic. *BUSYCON*

*PETICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 246; Pliocene, Italy. *OCINEBRINA*

*PETITI [*Murexiella*] E. H. Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, p. 116, pl. 5, fig. 3; Pliocene, South Carolina. *MUREXIELLA*

PETRI Dall, 1900, Nautilus, v. 14, p. 37; Emerson, 1964, Veliger, v. 6, pl. 20, fig. 3 (lectotype); California [? = *macropterus* Deshayes]. *PTEROPURPURA*

*PEYREIRENSIS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 107, pl. 13 [not 18 as cited], figs. 33, 34; Miocene, France. *PTERYNOTUS*

*PEYROTI Montanaro, 1935, Palaeont. Ital., v. 35, p. 27, pl. 2, fig. 11, as *excisus* var.; Miocene, Italy. *FAVARTIA*

*PHAGON [*Urosalpinx*] Gardner, 1947, U. S. Geol. Sur., Prof. Paper 142-H, p. 530, pl. 52, figs. 36, 37; Miocene, Florida. *PANAMUREX*

PHANEUS Dall, 1889, Bull. Harvard Mus. Comp. Zool., v. 18, p. 201; 1890, Proc. U. S. Nat. Mus., v. 12, pl. 11, fig. 1; West Atlantic. *PTERYNOTUS*

PHANTOM [*Minnimurex*] Woolacott, 1957, Proc. Roy. Zool. Soc. New South Wales, (1955-1956), p. 115, pl. 3, fig. 8; Australia. *MUREXIELLA* (type-*Minnimurex* Woolacott)

PHILIPPIANA [*Muricidea*] Dall, 1889, Bull. Harvard Mus. Comp. Zool., v. 18, p. 213; 1902, Proc. U. S. Nat. Mus., v. 24, pl. 29, fig. 5; West Atlantic. *ATTILIOSA*

*PHILIPPINENSIS [*Flexopteron*] Shuto, 1969, Mem. Fac. Sci. Kyushu Univ., Ser. D, Geol., v. 19, No. 1, p. 112, pl. 8, figs. 1, 2; Miocene, Philippine Islands. *FLEXOPTERON* (type)

PHILLIPSI [*Pterynotus*] E. H. Vokes, 1966, Veliger, v. 8, p. 165, pl. 25, figs. 1, 2; California. *PTEROCHELUS*

PHOLIDOTUS Watson, 1883, Jour. Linn. Soc. London, v. 16, p. 602; 1885, *Challenger* Report, Zool., v. 15, pt. 2, pl. 10, fig. 3; Australia. *CORALLIOPHILA*

PHYLLOPTERUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 164; Kiener, 1842, Coq. Viv., v. 7, pl. 24, fig. 1; Indo-Pacific. *PTERYNOTUS*

*PICHISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 234, as *polymorphus* var. (for Michelotti, 1841, pl. 2, fig. 7); Pliocene, Italy. *OCENEBRA*

PICTUS Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 24. CERITHIIDAE

PILEARE Linné, 1758, Syst. Nat., ed. 10, p. 749; Indo-Pacific. *LAMPUSIA* (type)

*PIMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 243, as *craticulatus* Brocchi var. (for D'Ancona, 1871, pl. 7, fig. 5); Pliocene, Italy. *OCINEBRINA*

**pimus* de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 247, as *imbricatus* var.; Pliocene, Italy [? = *pimus* de Gregorio, p. 234]. *OCINEBRINA*

PINNATA [*Triplex*] Perry, 1811, Conchology, pl. 7, fig. 5; Northeast Pacific [? = *foliatus Gmelin*]. *CERATOSTOMA*

pinnatus Swainson, 1822, Append. Cat. Bligh, p. 17; 1833, Zool. Illus., (ser. 2) v. 3, pl. 122 [*pinnatus* "Wood, 1828," is the same; = *alata* Röding, both for Martini, v. 3, figs. 1036, 1037]. *PTERYNOTUS* (type)

PINNIGER Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 174; Emerson, 1960, Amer. Mus. Novitates, No. 2009, fig. 7 (lectotype); East Pacific. *PURPURELLUS*

pinnuliferus Reeve, 1842, Conch. Syst., v. 2, p. 195, pl. 240, figs. 10, 11 [copy of G. B. Sowerby II, 1841, Conch. Illus., *Typhis*, pl. 200]; West Atlantic [unnecessary n.n. pro *Typhis pinnatus* Broderip *non Murex pinnatus* Swainson]. *PTEROTYPHIS*

PIRIFORMIS Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 105, ref. to Martini, v. 3, fig. 1044. CYMATIIDAE

PIRIMUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 285, as [*Buccinum*] *dorbignyi* Payraudeau var.; Mediterranean. *ENGINA*

*PIRLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 230, as *graniferus* var. (for Hörnes, 1856, pl. 26, fig. 1); Miocene, Austria. [Inasmuch as the Hörnes illustration is certainly *graniferus* Michelotti, as first revisor, the *pirlus* of de Gregorio, p. 283, is here rejected as a junior homonym of *pirlus* de Gregorio, p. 230, insuring nomenclatural stability.] *SUBPTERYNOTUS*

**pirlus* de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 283, as *plicatus* Brocchi var. (for Bellardi, 1872, pl. 12, fig. 4 & D'Ancona, 1871, pl. 4, fig 9); Pliocene, Italy. *ENGINA*

*PIRMUSUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 243, as *craticulatus* Brocchi var.; Pleistocene, Italy. *OCINEBRINA*

PIROTECTUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 256; Mediterranean. ? *OCENEBRA*

*PISITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 234, as *polymorphus* var.; Pliocene, Italy. ? *UROSALPINX*

PISTACHIA Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 34, fig. 174; 1846, Proc. Zool. Soc. London, pt. 13, p. 109 [? = *aciculatus* Lamarck]. *OCINEBRINA*

*PITORUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 250; Pliocene, Italy [Code Art. 57(e) requires this name to take precedence over *pitorus* de Gregorio, p. 234]. *JANIOPSIS*

**pitorus* de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 234, as *polymorphus* var. (for D'Ancona, 1871, pl. 7, fig. 9); Pliocene, Italy [? = *polymorphus* Brocchi]. *OCENEBRA*

PLANILIRATUS Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 31, fig. 149; Australia. ? *MUREXSUL*

*PLATEAUI Cossmann, 1907, Cat. Illus. Coq. Foss. Paris, Append. No. 4, p. 76, pl. 7, fig. 169-18; Eocene, France. *MUREXSUL*

PLEUROTOMA Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 9. TURRIDAE

PLEUROTOMOIDES Reeve, 1845, Conch. Icon., v. 3, _Murex,_ pl. 34, fig. 173; 1846, Proc. Zool. Soc. London, pt. 13, p. 108; ? Australia. DRUPINAE

*_pleurotomoides_ Müller, 1851, Palaeontographica, v. 1, Mon. 2, p. 24, pl. 3, fig. 31; Cretaceous, Netherlands. _PSEUDORAPA_ (type)

*PLICATIFORMIS [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 140; Eocene, Germany. FASCIOLARIIDAE

*PLICATILIS Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 588, pl. 81, figs. 19-21; Eocene, France. BUCCINIDAE

*PLICATOCARINATUS Giebel, 1853, Beit. Paläontologie, p. 107, pl. 1, fig. 3 [_fide_ Beyrich, 1854, Zeitsch. Deutsch. Geol. Gesell., v. 6, p. 747, pl. 13, fig. 2, not found otherwise]; Oligocene, Germany [? = _brevicauda_ Hébert]. _PTERYNOTUS_

*_plicatula_ Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 22, as _rudis_ Borson var. (for Bellardi, 1872, pl. 7, fig. 2); Miocene, Italy. _HEXAPLEX_

PLICATULUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3561, ref. to Chemnitz, v. 4, fig. 1488. CERITHIACEA

plicatus [Lightfoot], 1786, Cat. Portland Mus., p. 104; Falkland Islands [nude name]

PLICATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3551, ref. to Chemnitz, v. 4, figs. 1141, 1142; ? Indo-Pacific [see also _virgatus_ Dillwyn, unnecessary n.n.]. _THAIS_

*_plicatus_ "L." Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 410; "Mare della Indie" & Pliocene, Italy. [Brocchi referred to Lister, pl. 939, fig. 34b, expressly excluding Gmelin's reference to fig. 34a, which he stated is _Murex gyrinus._ However, there is no fig. 34b in any Lister seen by the writer. There is a fig. 34, which is _gyrinus,_ and a fig. 34a, which is the "_plicatus_ Brocchi" of authors but which could possibly have been confused by Chemnitz and Gmelin with the _M. plicatus_ of Gmelin. Gmelin's species has been restricted by subsequent authors, such as Lamarck and Dillwyn, to the Chemnitz figures, which represent a _Thais_ sp. There are 11 de Gregorio names from which to choose a replacement for Brocchi's species. The name _serzus,_ based on Bellardi, 1872, pl. 12, fig. 21, is perhaps the best choice of the lot]. _ENGINA_ (type-_Aplus_ de Gregorio)

plicatus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 708, ref. to Martini, v. 3, figs. 954, 955; Indo-Pacific [? = _Pyrula abbreviata_ Lamarck]. _CORALLIOPHILA_

plicatus G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 58, fig. 6; 1841, Proc. Zool. Soc. London, pt. 8, p. 139; East Pacific [see _elenensis_ Dall, n.n.]. _MUREX s.s._

plicatus "Martyn" Kobelt, 1877, Jahr. Deutsch. Malak. Gesell., v. 4, p. 241, ref. to Martyn, pl. 44; Northeast Pacific [? = _crispatus_ Holton]. _NUCELLA_

PLICIFEROIDES [_Chicoreus_] Kuroda, 1942, Venus, v. 12, p. 81; Japan [n.n. pro _pliciferus_ Sowerby _non_ Bivona]. _SIRATUS_

PLICIFERUS Bivona-Bernardi, 1832, Eff. Sci. Lett. Sicilia, v. 2, p. 22, pl. 3, fig. 10; Mediterranean [? = _blainvillei_ Payraudeau]. _MURICOPSIS_

pliciferus G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 195, fig. 101; 1841, Proc. Zool. Soc. London, pt. 8, p. 38; Japan [see _pliciferoides_ Kuroda, n.n.]. _SIRATUS_

*PLINI de Raincourt, 1874, Bull. Soc. Géol. France, (ser. 3) v. 2, p. 204, pl. 6, fig. 7; Eocene, France. BUCCINIDAE

*PLIOASPIRATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 20, pl. 5, fig. 21, as _absonus_ var.; Pliocene, Italy. _MUREXIELLA_

*PLIOCARINATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 22, pl. 6, figs. 19, 20, as _craticulatus_ Brocchi var.; Pliocene, Italy. _HADRIANIA_

**pliocurva* "Sacco" Dollfuss, 1926, Jour. de Conchyl., v. 70, p. 99 [? err. pro *pliorecurva* Sacco]

*PLIOCOSTULATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 23, pl. 6, fig. 23, as *craticulatus* Brocchi var.; Pliocene, Italy, *HADRIANIA*

*PLIOELATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 19, pl. 5, fig. 4, as *erinaceus* var.; Pliocene, Italy. *OCENEBRA*

*PLIONODOSA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 22, pl. 6, fig. 10, as *conglobatus* var.; Pliocene, Italy. *HEXAPLEX*

*PLIOPERVARICOSA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 19, pl. 5, fig. 12, as *polymorphus* var.; Pliocene, Italy. *OCENEBRA*

*PLIORECURVA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 21, pl. 6, fig. 8, as *hoernesi* D'Ancona var.; Pliocene, Italy. *HEXAPLEX*

*PLIOSCALARATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 19, pl. 5, figs. 14, 15, as *polymorphus* var.; Pliocene, Italy. *OCENEBRA*

**pliospirata* Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, expl. pl. 5, fig. 21 [err. pro *plioaspirata* Sacco]

*PLIOSUBASUTURATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 23, pl. 6, fig. 22, as *craticulatus* Brocchi var.; Pliocene, Italy. *HADRIANA*

*PLIOSUBOBTUSA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 19, pl. 5, fig. 13, as *polymorphus* var.; Pliocene, Italy. *OCENEBRA*

*PLIOVARICOSA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 20, pl. 5, figs. 17, 18, as *heptagonatus* var.; Pliocene, Italy. *HOMALOCANTHA*

PLORATOR A. Adams & Reeve *in* Reeve, 1849, Conch. Icon., v. 3, *Murex*, Suppl. pl. 1, fig. 191; Japan [see note after *burnettii*]. *PTEROPURPURA*

POELARIUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 59 [? = *gracilis* Montagu]. *COMARMONDIA*

*POELMANNI Geraerts, 1866, Étude Bolderberg, p. 68; Glibert, 1952, Inst. Roy Sci. Nat. Belg. Mém. 121, p. 97, pl. 7, fig. 14; Miocene, Belgium. *OCINEBRINA*

POIRIERI [*Chicoreus*] Jousseaume, 1881, Le Naturaliste, Année 3, No. 44, p. 349; Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, pl. 4, fig. 2; Indo-Pacific [? = *microphyllus* Lamarck]. *CHICOREUS*

POLII [*Bolinus*] Monterosato *in* Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 166, pl. 5, fig. 48, as *brandaris* var.; Adriatic. *BOLINUS*

POLITUS "Renieri" Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 663; Adriatic [? = *scriptus* Linné]. *MITRELLA*

polliaeformis Weinkauff, 1868, Conch. Mittelmeer, p. 89; Mediterranean [nude name never subsequently validated; ? = *inermis* Philippi]. *MURICOPSIS*

POLYGONULUS Lamarck, 1822, Anim. s. Vert. v. 7, p. 173; Kiener, 1842, Coq. Viv., v. 7, pl. 41, fig. 2; ? Mediterranean [? = *trunculus* Linné]. *HEXAPLEX*

POLYGONUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3555, ref. to Chemnitz, v. 4, figs. 1306-1309, 1314-1316; Indo-Pacific. *LATIRUS*

*POLYMORPHUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 415, pl. 8, fig. 4; Pliocene, Italy. *OCENEBRA* (type—*Heteropurpura* Jousseaume)

*POLYNEMATICUS Brown & Pilsbry, 1911, Proc. Acad. Nat. Sci. Phila., v. 63, p. 353, pl. 26, fig. 1; Miocene, Panama. *SIRATUS*

POLYPLEURUS Brazier, 1894, Proc. Linn. Soc. New South Wales, v. 18, p. 179, text fig.; Australia. ? *ORANIA*

POLYTROPUS Helbling, 1779, Abh. Privatgesell. Böhmen, v. 4, p. 119, pl. 2, figs. 24, 25. *LOPHIOTOMA*

pomiformis "Martini" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 96 [= *pomum* Gmelin, both for Martini, v. 3, figs. 1021-1025; the name has also been used by some European authors for a Miocene species of *Hexaplex*, see *austriacus* Tournouër]. *PHYLLONOTUS*

POMUM Gmelin, 1791, Syst. Nat., ed. 13, p. 3527, ref. to Martini, v. 3, figs. 1021-1025 [figs. 1024, 1025 are *margaritensis* Abbott not *pomum*]; West Atlantic. *PHYLLONOTUS*

PONDERATA Monterosato, 1923, R. Com. Talass. Ital. Mem. 107, p. 9, figs. 12, 13, as *trunculus* var.; Mediterranean. *HEXAPLEX*

PONDEROSUS G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 12, fig. 67; Red Sea [? = *virgineus* Röding]. *CHICOREUS*

*PONDICHERRIENSIS Forbes, 1846, Trans. Geol. Soc. London, (ser. 2) v. 7, p. 127, pl. 13, fig. 20; Cretaceous, India. ? *PALAEATRACTUS*

*PONTILEVIENSIS Tournouër, 1875, Jour. de Conchyl., v. 23, p. 159, pl. 5, fig. 6, as *turonensis* var.; Miocene, France. *HEXAPLEX*

porcatus [Lightfoot], 1786, Cat. Portland Mus., p. 182 [nude name]

*PORRECTUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 21, pl. 2, figs. 35, 36; Eocene, England. *FUSINUS*

porrectus Locard, 1886, Prodrome Malac. Française *in* Ann. Soc. Linn. Lyon, (n.s.) v. 32, p. 221 [p. 162 of separate]; Mediterranean [for *blainvillei* Kiener, 1842, pl. 40 (not pl. 60, as stated by Locard), fig. 2, *non* Payraudeau; see *rosea* Monterosato]. *MURICOPSIS*

*PORULOSUS Michelotti, 1847, Nat. Verh. Hollandsche Maat. Wetensch. Haarlem, (ser. 2) v. 3, p. 237; Miocene, Italy [? = *absonus* Cristofori & Jan]. *MUREXIELLA*

*POSTDILUVIANUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 196, pl. 7, fig. 96; ? Pleistocene, France.

*POSTII [*Pteropurpura*] Dall, 1896, Proc. U. S. Nat. Mus., v. 18, p. 44; 1900, Trans. Wagner Free Inst. Sci., v. 3, pt. 5, pl. 43, fig. 7; Miocene, Florida. *PTERYNOTUS*

*POWELLI [*Pterynotus*] Fleming, 1962, Trans. Roy. Soc. New Zealand, Zool., v. 2, No. 14, p. 114, pl. 1, figs. 11, 12, as *angasi* Crosse subsp.; Pleistocene, New Zealand. *PTEROCHELUS*

*PRAEGRESSUS [*Murexsul*] Finlay, 1930, Trans. New Zealand Inst., v. 61, p. 73, pl. 1, fig. 14; Miocene, New Zealand. *MUREXSUL*

*PRAEPAUXILLUS Maury, 1917, Bull. Amer. Paleont., v. 5, No. 29, p. 103, pl. 16, fig. 11; Miocene, Dominican Republic. *MURICOPSIS*

*PREGENITOR [*Murexsul*] Laws, 1935, Trans. Roy. Soc. New Zealand, v. 65, p. 42, pl. 7, fig. 29; Miocene, New Zealand [spelled *progenitor* in plate expl.]. *MUREXSUL*

*PRICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 238, as *bracteatus* var. (for D'Ancona, 1871, pl. 7, fig. 11); Pliocene, Italy. *PSEUDOMUREX*

*PRIMIGENA [*Poirieria*] Finlay, 1930, Trans. New Zealand Inst., v. 61, p. 76, pl. 1, fig. 5; Oligocene, New Zealand. *POIRIERIA*

PRINCEPS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 64, fig. 43; East Pacific. *HEXAPLEX*

*PRINSUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 246; Miocene, Italy. ? *TROPHON*

*PRIONOTUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 107, pl. 1, fig. 5; Eocene, Australia. *MUREXSUL*

*PRIPPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 259, as *trunculus* var.; Pliocene, Italy. *HEXAPLEX*

**prisca* Rutot, 1876, Ann. Soc. Malac. Belg., v. 11, p. 45, pl. 3, fig. 4, as *deshayesii* var.; Oligocene, Belgium. *FLEXOPTERON*

*PRISCUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 16, pl. 1, fig. 25; pl. 3, fig. 44; Eocene, England. *CRYPTOCONUS*

PRISMATICUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3559, ref. to Chemnitz, v. 10, figs. 1635, 1636; Indo-Pacific. *LATIRUS*

*PROAVITUS [*Murexsul*] Laws, 1935, Trans. Roy. Soc. New Zealand, v. 65, p. 42, pl. 7, fig. 28; Miocene, New Zealand. *MUREXSUL*

*PROAVUS Mayer-Eymar, 1898, Jour. de Conchyl., v. 46, p. 232, pl. 14, fig. 2; Eocene, Egypt [type is an unidentifiable internal mold]

*PROCERA Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, p. 92, pl. 7, fig. 17, as *inornatus* Beyrich var.; Miocene, Germany [? = *inornatus* Beyrich, see *beyrichi* von Koenen]. *BOLINUS*

PRODUCTA [*Ranella*] Pease, 1861, Proc. Zool. Soc. London, pt. 27, p. 397; Hawaii [? = *anceps* Lamarck]. *ASPELLA*

*PRODUCTUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 99, pl. 7, fig. 6; Miocene, Italy. *OCINEBRINA*

PROPECONGLOBATA Bellini, 1902, Boll. Soc. Nat. Napoli, v. 15, p. 99, as *trunculus* var.; Mediterranean. *HEXAPLEX*

*PROPEPOSTI [*Purpura*] Mansfield, 1937, Florida Geol. Sur., Bull. 15, p. 131, pl. 5, figs. 8, 10; Miocene, Florida. *PTERYNOTUS*

*PROPETIPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 241, as *craticulatus* Brocchi var.; Tertiary, Italy. *HADRIANIA*

*PROPETIRICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 231, as *brandaris* var.; Pliocene, Italy. *BOLINUS*

**propinquus* Edwards *in* Newton, 1891, Edwards Coll. Brit. Olig. Eocene Mollusca, p. 148; Eocene, England [nude name, ? = *deslongchampsi* Deshayes]. ? *MELONGENA*

PROPINQUUS Kuroda & Azuma, 1961, Venus, v. 21, p. 300, text fig. 3; Japan [? = *pliciferoides* Kuroda]. *SIRATUS*

*PROTOCIRROSUS Nomura, 1937, Jap. Jour. Geol. Geog., v. 14, p. 85, pl. 6, fig. 11; Pliocene, Japan. ? *MUREXIELLA*

*PROTRUNCULOIDES Montanaro, 1935, Palaeont. Ital., v. 35, p. 21, pl. 1, fig. 11, as *trunculus* var.; Miocene, Italy. *HEXAPLEX*

PROXIMUS Montagu, 1808, Test. Brit., Suppl., p. 118, pl. 30, fig. 8; North Sea ? TURRIDAE

*PSEUDERINACEUS Boettger, 1901, Vehr. Mitt. Siebend. Ver. Naturw. Hermannstadt, v. 51, p. 28; Zilch, 1934, Senckenbergiana, v. 16, pl. 15, fig. 76 (lectotype); Miocene, Romania. *PTERYNOTUS*

*PSEUDOARATUS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 125, pl. 18, fig. 16; Miocene, France. *CHICOREUS*

*PSEUDOBRANDARIS Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 93; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 3 [as *rectispina* Bonelli]; Miocene, France [? = *spinicosta* Bronn]. *MUREX s.s.*

**pesudobrandaris* D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, p. 323, pl. 2, figs. 1, 2, 7; Mio-Pliocene, Italy [for *brandaris* Brocchi, 1814, and many others, *non* Linné; ? = *torularius* Lamarck]. *BOLINUS*

*PSEUDOCINGULATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 23, pl. 6, fig. 33, as *imbricatus* Brocchi var.; Pliocene, Italy. *OCINEBRINA*

*PSEUDOCOSTATUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 174; ? Pliocene, Greece [n.n. pro *Buccinum costatum* Deshayes *non* Linné, although said to be *non Murex costatus* Born]. *PISANIA*

*PSEUDOEXIGUUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 74; Miocene, France [n.n. pro *exiguus* Dujardin *non* Broderip]. ? *POLLIA*

*PSEUDOFASCIOLARIA Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, p. 92, pl. 7, fig. 18, as *inornatus* Beyrich var.; Miocene, Germany [? = *inornatus* Beyrich; see *beyrichi* von Koenen.]. *BOLINUS*

*PSEUDOFUSIFORMIS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 73; Miocene, France [n.n. pro *Purpura fusiformis* Grateloup *non* Blainville, although said to be *non Murex fusiformis* Gmelin]. ? *THAIS*

*PSEUDOLAMARCKI Magne, 1941, Jour. de Conchyl., v. 84, p. 374; Miocene, France [for *lamarcki* Cossmann & Peyrot, 1923, pl. 13, figs. 18-20, *non* Grateloup.] *PTERYNOTUS*

*PSEUDONYSTI S. V. Wood, 1879, Crag Moll., 2d Suppl., *in* Palaeont. Soc., v. 33, p. 14, pl. 1, fig. 8; Pliocene, England. TROPHONINAE

**pseudooblongus* d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 73; Miocene, France [unnecessary n.n. pro *Purpura oblonga* Grateloup *non Murex oblongus* Brocchi]. ? *THAIS*

*PSEUDOPARTSCHI Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, p. 93, pl. 7, fig. 19, as *inornatus* Beyrich var.; Miocene, Germany [? = *inornatus* Beyrich, see *beyrichi* von Koenen]. *BOLINUS*

*PSEUDOPHYLLOPTERUS Michelotti, 1847, Nat. Verh. Hollandsche Maat. Wetenschap. Haarlem, (ser. 2) v. 3, p. 240; Miocene, Italy [for *phyllopterus* Michelotti, 1841, *non* Lamarck; see also *perfoliatus* Bonelli *in* Bellardi]. *PTERYNOTUS*

*PSEUDORUDIS Segre, 1954, Boll. Serv. Geol. Ital., v. 76, p. 65, pl. 2, fig. 1, as *trunculus* var.; Pleistocene, Italy. *HEXAPLEX*

PUDICUS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 29, fig. 137; West Atlantic [? = juvenile *fulvescens* G. B. Sowerby II]. *HEXAPLEX*

PUDORICOLOR Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 33, fig. 171; 1846, Proc. Zool. Soc. London, pt. 13, p. 108; West Atlantic. *CHICOREUS*

PUGILINUS Born, 1778, Index Mus. Caes. Vind., pp. 313-314, ref. to Chemnitz, v. 4, figs. 1323, 1324; Indo-Pacific. *MELONGENA*

PULCHELLUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 176; Mediterranean. ? *ENGINA*

*PULCHER J. Sowerby, 1813, Mineral Conch., v. 1, p. 63, pl. 23; ? Pleistocene, England. *NEPTUNEA*

**pulcher* DeFrance, 1827, Dict. Sci. Nat., v. 45, p. 547; Miocene, France. ? *FAVARTIA*

pulcher A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 270; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 119; West Atlantic [see *consuela* Verrill]. *SIRATUS*

*PULLUS Leathes *in* Woodward, 1833, Geology of Norfolk, p. 45, pl. 3, fig. 27; Pleistocene, England. *TROPHON*

PULTUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 259, as *trunculus* var.; Mediterranean. *HEXAPLEX*

PUMILIS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; Galapágos.

pumilis A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 70; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 200; Indo-Pacific [? = *salmoneus* Melvill & Standen]. *FAVARTIA*

pumilis Küster, 1869, Conchyl.-Cab., ed. 2, v. 3, No. 2, p. 118, pl. 35, figs. 8-10. ? *OCINEBRINA*

**pumilis* Fuchs, 1870, Denkschr. K. Akad. Wissen. Wien, v. 30, p. 192, pl. 9, figs. 1, 2; Eocene, Italy. ? *HEXAPLEX*

*PUNCTATUS Pilkington, 1804, Trans. Linn. Soc. London, v. 7, p. 117, pl. 11, fig. 3; Eocene, England. TURRIDAE

**punctatus* Woodward, 1833, Geology of Norfolk, p. 45, pl. 3, fig. 28; Pleistocene, England. BUCCINIDAE

PUNCTUATA [*Hexaplex*] Perry, 1811, Conchology, pl. 8, fig. 5; ? West Atlantic [? = *fulvescens* G. B. Sowerby II]. *HEXAPLEX*

*PUNGENS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 35, pl. 3, figs. 81, 82; Eocene, England. *TYPHIS*

PUNICEUS [*Hexaplex*] Oliver, 1915, Trans. New Zealand Inst., v. 47, p. 535, pl. 11, fig. 31; Kermadec Islands [a juvenile shell]. ? *MUREXSUL*

*PUNTAGORDANUM Weisbord, 1962, Bull. Amer. Paleont., v. 42, No. 193, p. 292, pl. 26, figs. 7, 8; Pliocene, Venezuela [? = *glyptus* Smith]. *MUREXIELLA*

purpura Deshayes, 1843, Anim. s. Vert., ed. 2, v. 9, p. 595; Indo-Pacific [= *miliaris* Gmelin, both for Chemnitz, v. 10, figs. 1532-1535]. *VITULARIA*

PURPURATUS Reeve, 1846, Conch. Icon., v. 3, *Murex,* pl. 35, fig. 183; West Atlantic [? = *brevifrons* Lamarck]. *CHICOREUS*

PURPURESCENS [*Polyplex*] Perry, 1811, Conchology, pl. 9, fig. 1; Mediterranean [? = *trunculus* Linné]. *HEXAPLEX* (type—*Polyplex* Perry) [Keen (1964, Bull. Zool. Nomen., v. 21, p. 423) has requested the Commission to set aside this ill-advised designation of Baily (1960, Nautilus, v. 74, p. 28)][6]

PURPUREUS Montagu, 1803, Test. Brit., v. 1, p. 260, pl. 9, fig. 3; Mediterranean. *CLATHURELLA*

PURPURIFERA [*Truncularia*] Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 167, as *trunculus* var.; Adriatic. *HEXAPLEX*

purpuroides Röding, 1798, Museum Boltenianum, p. 144 [nude name]

PURPUROIDES Dunker *in* Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 32, fig. 158; South Africa. *TROCHIA*

*PURUENSIS Martin, 1914, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 2, pt. 4, p. 145, pl. 4, figs. 93-95; Eocene, Java. *PTEROCHELUS*

*PUSCHIANUS Rouillier, 1847, Bull. Soc. Imp. Nat. Moscou, v. 20, p. 405 [said to be fig. 23, not found]; Jurassic, Russia.

PUSIO Linné, 1758, Syst. Nat., ed. 10, p. 754; West Atlantic. *PISANIA* (type)

*PUSTULATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 430, pl. 9, fig. 5; Mio-Pliocene, Italy. TURRIDAE

*_pustulatus_ Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 97, pl. 7, fig. 5; Miocene, Italy. *OCENEBRA*

PUTEOLA [*Muricidea*] A. Adams, 1863, Proc. Zool. Soc. London, (1862), p. 373; Japan. ? *LATIAXIS*

*PYGMAEUS [emend.] [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 143; Oligocene, Germany [orig. as *pygmäus*]. NASSARIIDAE

pygmaeus Bush, 1893, Bull. Harvard Mus. Comp. Zool., v. 23, p. 213, pl. 1, figs. 3, 4; West Atlantic [see *bushae* Vokes, n.n.]. *PTERYNOTUS*

*PYKNOS Gardner, 1947, U.S. Geol. Sur., Prof. Paper 142-H, p. 522, pl. 53, fig. 10; Miocene, Florida. *PHYLLONOTUS*

*_pyramidalis_ Turton, 1816, Dublin Examiner, v. 1, No. 3, p. 237 [nude name]

PYRMIDALIS [*Ranella*] Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 194; G. B. Sowerby II, 1835, Conch. Illus., *Ranella,* pl. 84, fig. 2; East Pacific. *ASPELLA*

*PYRASTER Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 225; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 80, figs. 36-38; Eocene, France. *RANULARIA*

*PYRASTRIFORMIS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 142; Oligocene, Germany. CYMATIIDAE

*PYRENAICUS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 98, pl. 12, figs. 33, 34; Miocene, Spain. *MUREX s.s.*

PYRRHIAS Watson, 1883, Jour. Linn. Soc. London, v. 16, p. 603; East Atlantic [? = *fusulus* Brocchi]. *ORANIA*

*PYRULAEFORMIS Libassi, 1859, Atti Accad. Sci. Lett. Palermo, (n.s.) v. 3, p. 41, fig. 8; Pliocene, Italy. *VITULARIA*

*_pyrulatus_ Schlotheim, 1832, System. Verz. Pertrefacten-Samml., p. 37; Cretaceous, Germany. [nude name]

*PYRULATUS Bonelli *in* Bellardi & Michelotti, 1841, Mem. R. Accad. Sci. Torino, (ser. 2) v. 3, p. 131, pl. 2, figs. 10, 11 [as separate: Saggio Orittografico Terr. Terz. Piemonte, ? 1840, p. 39]; Miocene, Italy. BUCCINIDAE

*PYRULOIDES von Koenen, 1885, Abh. K. Gesell. Wissen. Göttingen, v. 32, p. 6, pl. 1, fig. 1 & pl. 3, fig. 14; Paleocene, Denmark.

PYRUM Linné, 1758, Syst. Nat., ed. 10, p. 749; Indo-Pacific. *CYMATIUM*

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[6] It was so ruled in Opinion 911, June, 1970.

*PYRUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 26, pl. 4, figs. 52, 53; Eocene, England. *SYCOSTOMA*

Q

*QUADRANGULARIS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 131, pl. 12, figs. 31, 32, 43, as *suboblongus* var.; Miocene, France. *MUREXIELLA*

*QUADRATUS J. de C. Sowerby, 1823, Mineral Conch., v. 5, p. 7, pl. 410, fig. 1; Cretaceous, England. ? BUCCINIDAE

quadricornis [*Purpura*] Röding, 1798, Museum Boltenianum, p. 142 [nude name]

QUADRIFRONS Lamarck, 1822, Anim. s. Vert., v. 7, p. 170; Kiener, 1842, Coq. Viv., v. 7, pl. 34, fig. 1; Indo-Pacific. *CHICOREUS*

**quadrifrons* Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 10; Oligocene, France [see *subquadrifrons* d'Orbigny, n.n.]. *CHICOREUS*

*QUADRISPINOSA Depontaillier, 1884, Jour. de Conchyl., v. 32, p. 28, as *spinicosta* Bronn var.; Pliocene, France. *MUREX s.s.*

quadrispinosa Dautzenberg, 1904, Jour. de Conchyl., v. 52, p. 287, pl. 8, fig. 2, as *brandaris* var.; Mediterranean. *BOLINUS*

*QUILONICA [*Tritonalia*] Dey, 1962, Palaeont. Indica, (n.s.) v. 36, p. 80, pl. 7, figs. 26, 27; Miocene, India. *DERMOMUREX*

QUINQUELOBATUS G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 22, fig. 218. ? *PURPURELLUS*

*QUIROSENSIS F. Hodson, 1931, Bull. Amer. Paleont., v. 16, No. 59, p. 37, pl. 20, figs. 1, 2, 5, as *recurvirostris* var.; Miocene, Venezuela. *SIRATUS*

R

RADICATUS Hinds, 1844, Proc. Zool. Soc. London, pt. 11, p. 128; 1844, Voyage *Sulphur,* Zool., Moll., pl. 3, figs. 21, 22; East Pacific [? = *lappa* Broderip]. *MUREXIELLA*

radicula Menke, 1828, Synop. Meth. Moll., p. 38; ? India [= *striatus* Gmelin]. *HEXAPLEX*

RADIX Gmelin, 1791, Syst. Nat., ed. 13, p. 3527, ref. to Argenville, pl. 11, fig. K; West Panama. *HEXAPLEX* (type-*Muricanthus* Swainson, by ICZN Opinion 886, 1969)

RADULA Linné, 1758, Syst. Nat., ed. 10, p. 756; West Africa. *TYMPANOTONOS*

radula Hedley, 1899, Mem. Australian Mus., v. 3, p. 459, text fig. 36; Indo-Pacific. *MURICOPSIS*

*RADULAEFORMIS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 147; Eocene, Italy. CERITHIACEA

RADWINI [*Murexiella*] Emerson & D'Attilio, 1970, Veliger, v. 12, p. 270, pl. 39, figs. 1, 2; Galapágos. *MUREXIELLA*

RAMOSUS Linné, 1758, Syst. Nat., ed. 10, p. 747; Indo-Pacific. *CHICOREUS* (type)

RAMULOSUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 192; Mediterranean [? = *trunculus* Linné]. *HEXAPLEX*

RANA Linné, 1758, Syst. Nat., ed. 10, p. 748; Indo-Pacific. *BURSA*

*RANELLOIDES Pusch, 1837, Polens Paläont., p. 136, pl. 11, fig. 21; Jurassic, Poland. ? *SIPHONALIA*

*RAOULI Peyrot, 1938, Actes Soc. Linn. Bordeaux, v. 89, Suppl., p. 179, pl. 3, figs. 18-22; Miocene, France [? = *aquitanicus* Grateloup]. *CHICOREUS*

RAPA Linné, 1758, Syst. Nat., ed. 10, p. 752; Indo-Pacific. *RAPA* (type)

rapa Gmelin, 1791, Syst. Nat., ed. 13, p. 3545; Indo-Pacific [= *rapiformis* Born, both for Martini, v. 3, fig. 750]. *RAPANA*

RAPHANUS Holton, 1802, Enum. Syst. Chemnitz., p. 61, ref. to Chemnitz, v. 10, fig. 1558; New Zealand [_Fusus raphanus_ Lamarck, 1816, is same species]. _SIPHONALIA_

RAPIFORMIS Born, 1778, Index Mus. Caes. Vind., p. 306, ref. to Martini, v. 3, fig. 750; Indo-Pacific. _RAPANA_

*_raricostatus_ Edwards _in_ Newton, 1891, Edwards Coll. Brit. Olig. Eocene Mollusca, p. 148; Eocene, England [nude name]

rarispina Lamarck, 1822, Anim. s. Vert., v. 7, p. 158; Indo-Pacific [= _trapa_ Röding, both for Martini, v. 3, fig. 1056; the shell figured by Kiener, 1842, pl. 11, fig. 1, which is undoubtedly the true _rarispina_ of Lamarck, = _antillarum_ Hinds & _formosus_ G. B. Sowerby II]. _MUREX s.s._

*_raristriatus_ Doderlein, 1862, Cenni Geol. Terr. Mio. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name]

*RARIVARICOSA Noszky, 1940, Ann. Hist. Nat. Mus. Natl. Hung., v. 33, p. 27, as _sismondae_ var.; Oligocene, Hungary. _BOLINUS_

*RAULINI Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine _in_ Actes Soc. Linn. Bordeaux, v. 75, p. 104, pl. 13, figs. 5, 6; Miocene, France [? = _dujardini_ Tournouër]. _CHICOREUS_

*RECTICANALIS S. V. Wood, 1879, Crag Moll., 2d Suppl., _in_ Palaeont. Soc., v. 33, p. 15, pl. 1, fig. 7; Pliocene, England. TROPHONINAE

RECTICORNIS von Martens _in_ Löbbecke & Kobelt, 1880, Jahr. Deutsch. Malak. Gesell., v. 7, p. 81, pl. 3, fig. 3; Australia. _CHICOREUS_
MUREX s.s.

RECTIROSTRIS G. B. Sowerby II, 1841, Conch. Illus., _Murex,_ pl. 197, fig. 111; 1841, Proc. Zool. Soc. London, pt. 8, p. 138; Japan. _MUREX s.s._

*_rectispina_ Bonelli _in_ Michelotti, 1841, Monografia _Murex,_ p. 13; Miocene, Italy [a manuscript name placed in synonymy of _spinicosta_ Bronn].

RECURVIROSTRIS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 174; G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 59, fig. 9; East Pacific. _MUREX s.s._

*REEDI S. V. Wood, 1877, Quart. Jour. Geol. Soc. London, v. 33, p. 120; 1879, Crag Moll., 2d Suppl., _in_ Palaeont. Soc., v. 33, pl. 1, fig. 9; Pliocene, England. TROPHONINAE

REEVEI [_Chicoreus_] E. H. Vokes, 1965, Tulane Stud. Geol., v. 3, No. 4, p. 196; West Atlantic [n.n. pro _trilineatus_ Reeve _non_ J. Sowerby; ? = _ciboney_ C. & P. F.]. _SIRATUS_

REGIUS Swainson, 1821, Exotic Conch., pt. 2, pl. 15; East Pacific. _PHYLLONOTUS_

regius Schubert & Wagner, 1829, Conchyl.-Cab., v. 12, p. 133, pl. 230, figs. 4066, 4067; East Pacific [? = _eurythrostomus_ Swainson]. _PHYLLONOTUS_

*REGULARIS J. Sowerby, 1818, Mineral Conch., v. 2, p. 195, pl. 187, fig. 2; Eocene, England. _EUTHRIOFUSUS_

*_regularis_ Anton, 1839, Verz. Conch., p. 82; Eocene, France. ? _PTERYNOTUS_

*REMBANGENSIS Wanner & Hahn, 1935, Zeitsch. Deutsch. Geol. Gesell., v. 87, p. 253, pl. 19, figs. 11-13; Miocene, Java. _PTERYNOTUS_

*REPETITI [_Pterynotus_] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 16, pl. 3, fig. 4; Miocene, North Carolina. _PURPURELLUS_

*RESTITUTENSIS Fontannes, 1879 [1880], Moll. Pliocènes Rhone et Roussillon, v. 1, p. 269 [errata], pl. 2, fig. 2, as _funiculosus_ var.; Pliocene, France. _HADRIANIA_

*_restitutiana_ Fontannes, 1879, Moll. Pliocènes Rhone et Roussillon, v. 1, p. 9, as _funiculosus_ var.; Pliocene, France [see _restitutensis,_ justified emendation, _vide_ Code Art. 32(a)i & 33 (a)ii]. _HADRIANA_

RETICULARIS Linné, 1758, Syst. Nat., ed. 10, p. 749 [species _dubium_]

RETICULATUS [_Strombiformis_] Da Costa, 1778, Brit. Conch., p. 117, pl. 8, fig. 13; East Atlantic [this is the species frequently cited as _"Murex" reticulatus_ Montagu, 1803, or Pulteney, 1799]. _BITTIUM_ (type)

*RETICULATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 435, pl. 9, fig. 12; Pliocene, Italy. TURRIDAE

*_reticulatus_ DeFrance, 1827, Dict. Sci. Nat., v. 45, p. 545; Miocene, France. ? _OCINEBRINA_

*RETICULOSUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 226; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 80, figs. 30-32; Eocene, France. _SASSIA_

RETICULUM Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 105, ref. to Chemnitz, v. 11, figs. 1858, 1859; Indo-Pacific [_Triton tripus_ Lamarck, 1822, is same species]. _RANULARIA_

*RETUSUS Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 305, pl. 1, fig. 3; Miocene, Italy. _GYRINIUM_

*_reussii_ Hörnes, 1848, Verz. Fossil-reste Wien, p. 18, _in_ Czjzek, 1849, Erläut. Geog. Karte [nude name; placed in synonymy of _labrosus_ Bonelli by Hörnes, 1853]. _JANIOPSIS_

*REVOLUTUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 71, pl. 5, fig. 5; Miocene, Italy. ? _PAZINOTUS_

*RHEANUS de Gregorio, 1880, Faune S. Giovanni Ilarione, pt. 1, fasc. 1, p. 95, pl. 7, fig. 58; Eocene, Italy. CYMATIIDAE

RHODOCHEILUS King & Broderip, 1832, Zool. Jour., v. 5, p. 347; East Pacific [? = _brassica_ Lamarck]. _PHYLLONOTUS_

*RHOMBICUS Meunier, 1880, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 3, p. 254, pl. 14, figs. 31, 32; Oligocene, France.

rhyssus Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 332; Emerson, 1964, Veliger, v. 6, pl. 20, fig. 1 (holotype); California [preoccupied by _rhysus_ Tate, Code Art. 58(6), see _Pteropurpura vokesae_ Emerson, n.n.] _PTEROPURPURA_

*RHYSUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 95, pl. 1, fig. 7; Miocene, Australia. _PTERYNOTUS_

RICHARDI Fischer, 1882, Jour. de Conchyl., v. 30, p. 49; East Atlantic.

RICINULOIDES Quoy & Gaimard, 1833, Voyage _Astrolabe_, Zool., v. 2, p. 534, pl. 36, figs. 13-16; Indo-Pacific [? = _fiscellum_ Gmelin]. _MORULA_

RICINUS Linné, 1758, Syst. Nat., ed. 10, p. 750; Indo-Pacific. _DRUPA_ (type)

*RIGIDUS Oppenheim, 1901, Palaeontographica, v. 47, p. 218, pl. 1, figs. 1, 2; Oligocene, Italy. _PTERYNOTUS_

*RIMOSUS Solander _in_ Brander, 1766, Foss. Hantoniensia, p. 18, pl. 1, fig. 29; Eocene, England. _RIMELLA_

*RIPARIUS E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 157, pl. 1, fig. 5; Miocene, Florida. _PHYLLONOTUS_

*RITISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 262, as _trunculus_ var.; Miocene, Italy. _HEXAPLEX_

robusta Dautzenberg, 1904, Jour. de Conchyl., v. 52, p. 286, as _brandaris_ var.; Mediterranean. _BOLINUS_

ROBUSTUS Verco, 1895, Trans. Roy. Soc. So. Aust., v. 19, p. 85, pl. 2, fig. 3; Australia. _TRIPTEROTYPHIS_

ROCHEBRUNI Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, p. 57, pl. 5, fig. 1; Indian Ocean [? = _maurus_ Broderip]. _CHICOREUS_

*ROCHETUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 242, as _craticulatus_ Brocchi var.; Pliocene, Italy. ? _HADRIANIA_

*RODEOENSIS Clark _in_ Hanna, 1924, Proc. Calif. Acad. Sci., (ser. 4) v. 13, No. 10, p. 172; Miocene, California [n.n. pro _packardi_ Clark _non_ Dickerson]. ? _OCENEBRA_

*ROEMERI d'Archiac & Haime, 1853, Desc. Anim. Foss. Numm. Inde, p. 311, pl. 29, fig. 21; Eocene, India.

*ROLANDIUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 201; ? Pliocene, Italy.

RORIFLUUS A. Adams & Reeve _in_ Reeve, 1849, Conch. Icon., v. 3, _Murex_, Suppl. pl. 1, fig. 190; Japan [see note after _burnettii_]. _CERATOSTOMA_ *rosana* [*Purpura*] Schumacher, 1817, Essai Vers Test., p. 212; Indo-Pacific [= *carneola* Röding & *elongata* Link, all for Martini, v. 3, figs. 995-997; ? = *saulii* G. B. Sowerby II]. *CHICOREUS*

ROSARIA [*Triplex*] Perry, 1811, Conchology, pl. 6, fig. 3; Ceylon [? = *foliatus* Perry; see also *palmarosae* Lamarck]. *CHICOREUS*

ROSARIUM [*Purpura*] Röding, 1798, Museum Boltenianum, p. 140, ref. to Chemnitz, v. 10, figs. 1528, 1529; West Africa. *HEXAPLEX*

ROSEA Monterosato, 1878, Enum. e Sinon., p. 40 [nude name]; *in* Bucquoy, Dautzenberg & Dollfus, 1882, Moll. Mar. Roussillon, v. 1, p. 21, as *blainvillei* var; Mediterranean [for *blainvillei* Blainville, 1829, pl. 5, fig. 4, & Kiener, 1842, pl. 40, fig. 2, *non* Payraudeau]. *MURICOPSIS*

ROSEA [*Favartia*] Habe, 1961, Coloured Illus. Shells Japan, v. 2, p. 49, pl. 25, fig. 8; Append., p. 19; Japan. *FAVARTIA*

roseotincta Dautzenberg, 1895, Bull. Soc. Zool. France, v. 8, p. 368, as *trunculus* var.; Mediterranean. *HEXAPLEX*

ROSEOTINCTUS G. B. Sowerby II, 1860, Proc. Zool. Soc. London, pt. 27, p. 429, pl. 49, fig. 6; Indo-Pacific [? = *triqueter* Born]. *NAQUETIA*

ROSSITERI Crosse, 1872, Jour. de Conchyl., v. 20, pp. 74, 218, pl. 13, fig. 2; Indo-Pacific. *CHICOREUS*

*ROSTELLARIFORMIS von Buch, 1831, Rec. Planches Pétrif. Remarq., pl. 7, fig. 3; Jurassic [*fide* Sherborn, reference never located]. *SPINIGERA*

*ROSTRALIS Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 8, as *frondosus* Lamarck var.; Miocene, France [see also *subfrondosus* d'Orbigny]. ? *MURICOPSIS*

*ROSTRATUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 21, pl. 2, fig. 34; Eocene, England. *SURCULA*

rostratus Olivi, 1792, Zool. Adriat., p. 153, ref. to Ginanni, pl. 7, fig. 56; Mediterranean [? = *striatulus* Gmelin]. *FUSINUS* (type-*Pseudofusus* Monterosato)

ROTA Mawe, 1823, Linn. Syst. Conch., p. 131, pl. 26, fig. 8; Indo-Pacific [? = *anatomica* Perry]. *HOMALOCANTHA*

*ROTATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 434, pl. 9, fig. 11; Miocene, Italy. *GEMMULA*

*ROTELLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 239, as *bracteatus* var.; Pliocene, Italy. *PSEUDOMUREX*

*ROTIFER Bronn, 1831, Ital. Tert. Gebild., p. 37; Pliocene, Italy [? = *bracteatus* Brocchi]. *PSEUDOMUREX*

*ROUAULTI Cossmann *in* O'Gorman, 1923, Gisement Cuisien de Gan, p. 94, pl. 6, fig. 23; Eocene, France. ? *HEXAPLEX*

*ROVASENDAE Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 75, pl. 5, fig. 9; Miocene, Italy. *PTERYNOTUS*

RUBECULA Linné, 1758, Syst. Nat., ed. 10, p. 749; Indo-Pacific. *CYMATIUM*

RUBESCENS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 174; G. B. Sowerby II, 1834, Conch. Illus., *Murex*, pl. 58, fig. 7; Indo-Pacific. *CHICOREUS*

RUBETA Linné, 1758, Syst. Nat., ed. 10, p. 748, as *rana* var.; Indo-Pacific. *BURSA*

rubicunda [*Purpura*] Röding, 1798, Museum Boltenianum, p. 140 [nude name]

RUBICUNDA [*Triplex*] Perry, 1810, Arcana, pl. 25, fig. 2; Indo-Pacific [? = *brunnea* Link]. *CHICOREUS*

RUBICUNDA Perry, 1811, Conchology, pl. 54, fig. 2. *LEUCOZONIA*

rubicundus Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 59; Adriatic [? = *rostratus* Olivi]. *FUSINUS*

RUBIDUM Baker, 1897, Trans. St. Louis Acad. Sci., v. 7, p. 377, as *messorius* var.; West Atlantic. *MUREX s.s.*

RUBIGINOSUS Reeve, 1845, Conch. Icon., v. 3, *Murex*, pl. 8, fig. 32; Indo-Pacific. *CHICOREUS*

RUBRIDENTATUS Reeve, 1846, Conch. Icon., v. 3, *Murex,* pl. 36, fig. 186; Indo-Pacific [? = *phyllopterus* Lamarck]. *PTERYNOTUS*

rudis [*Purpura*] Link, 1807, Samml. Univ. Rostock, v. 2, p. 121; Red Sea [= *virgineus* Röding, both for Martini, v. 3, figs. 1029, 1030]. *CHICOREUS*

*RUDIS Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 308, pl. 1, fig. 6; Mio-Pliocene, Italy. *HEXAPLEX*

rudis Risso, 1826, Hist. Nat. Europe, v. 4, p. 193; Mediterranean [? = *blainvillei* Payraudeau]. *MURICOPSIS*

*_rudis_ Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 593, pl. 81, figs. 1-3; Eocene, France [see *subrudis* d'Orbigny, n.n.]. *MUREXIELLA*

*RUDITZENSIS Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, p. 213, pl. 24, fig. 17; Miocene, Czechoslovakia. ? *CORALLIOPHILA*

RUFESCENS G. B. Sowerby III, 1894, Proc. Malac. Soc. London, v. 1, p. 41, as *crouchi* var.; Mauritius [? = *balteatus* Beck *in* G. B. Sowerby II]. *MUREXIELLA*

*RUFIRUPICOLUS Dall, 1916, Proc. U.S. Nat. Mus., v. 51, p. 506, pl. 86, fig. 8; Oligocene, Georgia [?? = *propeposti* Mansfield]. ? *PTERYNOTUS*

RUFOLIRATA Schepman, 1911, *Siboga* Exped., v. 49, pt. 1-D, p. 342, as *ternispina* var.; Indo-Pacific. *MUREX s.s.*

RUFONOTATUM [*Sistrum*] Carpenter, 1864, Ann. Mag. Nat. Hist., (ser 3), v. 14, p. 48, as [*Sistrum*] *ochrostoma* var.; Gulf of California. ? *ATTILIOSA*

RUFUS Montagu, 1803, Test. Brit., v. 1, p. 263; East Atlantic. ? TURRIDAE

rufus Lamarck, 1822, Anim. s. Vert., v. 7, p. 162; Kiener, 1842, Coq. Viv., v. 7, pl. 32, fig. 1; West Atlantic [? = *florifer* Reeve]. *CHICOREUS*

*RUGINOSA White, 1887, Arch. Mus. Nacl. Rio de Janeiro, v. 7, p. 138, pl. 11, figs. 12, 13; Paleocene, Brazil. *LEVIFUSUS*

RUGOSUS Born, 1778, Index Mus. Caes. Vind., pp. 303-304, ref. to Chemnitz, v. 4, figs. 1155, 1156; 1780, Test. Mus. Caes. Vind., pl. 11, figs. 6, 7; Indo-Pacific. *THAIS*

*_rugosus_ Parkinson, 1811, Organic Remains, v. 3, p. 64, pl. 5, fig. 16; Pleistocene, England. *SEARLESIA*

RUGULOSUS Costa, 1861, Microdoride Medit., v. 1, p. 57, pl. 9, fig. 4; Mediterranean. ? *CORALLIOPHILA*

*RUSTICULOPSIS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 230, as *brandaris* var. (for Pereira Da Costa, 1867, pl. 20, figs. 5-7); Mio-Pliocene, Portugal. *BOLINUS*

*RUSTICUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 428, pl. 9, fig. 4; Pliocene, Italy. TURRIDAE

*_rusticus_ DeFrance, 1827, Dict. Sci. Nat., v. 45, p. 545; Miocene, France. ? *OCINEBRINA*

rusticus Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 33, fig. 163; 1846, Proc. Zool. Soc. London, pt. 13, p. 108. *MUREXIELLA*

rusticus Jousseaume, 1874, Rev. Mag. Zool., (ser. 3) v. 2, pl. 1, figs. 7, 8 [see *flavidus* Jousseaume]. *OCENEBRA*

*RUTOGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 285 (for Hörnes, 1856, pl. 25, fig. 7); Miocene, Austria. *DERMOMUREX*

*RUTOTI von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, p. 55; Oligocene, Belgium [for *brevicauda* Rutot, 1876, pl. 3, fig. 2, *non* Hébert]. *PTERYNOTUS*

*RUTTENI Beets, 1950, Leidse Geol. Medeedelingen, v. 15, p. 308, figs. 3, 4; Pliocene, East Borneo. *CHICOREUS*

S

*SAARETENSIS Oppenheim, 1918, Zeitsch. Deutsch. Geol. Gesell., v. 70, p. 110, pl. 12, fig. 8; Miocene, Turkey. *PTERYNOTUS*

*SABINOLA Palmer, 1960, Bull. Amer. Paleont., v. 40, No. 184, p. 989; Eocene, Texas [n.n. pro *veatchi* Palmer *non* Maury]. *PTERYNOTUS*

SACELLUM Gmelin, 1791, Syst. Nat., ed. 13, p. 3530, ref. to Chemnitz, v. 10, figs. 1561, 1563 [err. pro 1562]; Indian Ocean. ? *THAIS*

*SAGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 273, as *absonus* var.; Pliocene, Italy. *MUREXIELLA*

SAHARICUS Locard, 1897, Expéd. Sci. *Travailleur* et *Talisman,* Moll., v. 1, p. 305, pl. 15, figs. 17-20; East Atlantic. *HEXAPLEX*

SAIBAIENSIS Melvill & Standen, 1899, Jour. Linn. Soc. London, v. 27, p. 161, pl. 10, fig. 1; Australia. *PTEROCHELUS*

SALEBROSUS King & Broderip, 1832, Zool. Jour., v. 5, p. 347; G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 58, fig. 5; East Pacific. *VITULARIA*

SALLASI Rehder & Abbott, 1951, Rev. Soc. Malac. Habana, v. 8, p. 58, pl. 9, figs. 7, 8; West Atlantic. *MUREX s.s.*

SALLEANUS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 70; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 73; West Atlantic [? = *florifer* Reeve]. *CHICOREUS*

SALMO Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 14; East Pacific. *FASCIOLARIA*

SALMONEUS Melvill & Standen, 1899, Jour. Linn. Soc. London, v. 27, p. 162, pl. 10, fig. 2; Australia. *FAVARTIA*

SALTATRIX [*Chicoreus*] Kuroda, 1964, Venus, v. 23, p. 129, text figs. 1, 2; Japan. *CHICOREUS*

SANCTAEHELENAE E. A. Smith, 1891, Proc. Zool. Soc. London, (1890), p. 258, pl. 23, fig. 5; South Atlantic. *MUREXIELLA*

sanctaeluciae Salis, 1793, Reisen Neapel, v. 1, p. 371; Mediterranean [= *striatulus* Gmelin, both for Chemnitz, v. 4, figs. 1351, 1352]. *FUSINUS*

*SANDBERGERI Hörnes, 1856, Foss. Moll. Wien, v. 1, *in* Abh. K. K. Geol. Reichsanst., v. 3, p. 674, pl. 51, fig. 5; Miocene, France [for *Purpura torulosa* Grateloup, 1847, *non Fusus torulosus* Lamarck, 1816, E. M., pl. 428, fig. 3, which resembles an *Ocinebrina,* name changed in 1822 to *Fusus costulatus;* not *Fusus torulosus* Lamarck, 1816, E. M., pl. 423, fig. 4, which is a true *Fusinus*)]. *OCINEBRINA*

**sandbergeri* von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, p. 47, pl. 2, figs. 6, 7; Oligocene, Germany [? = *arenaria* Steuer]. *PTERYNOTUS*

*SANDERSONI Cox, 1930, Palaeont. Indica, (n.s.) v. 15, p. 190, pl. 20, fig. 4; Eocene, India. BUCCINIDAE

SANGUINEUS Wood, 1828, Index Test., Suppl.. p. 15, pl. 5, fig. 10. *LATIRUS*

**sani* "Coccini" Mayer, 1874, Jour. de Conchyl., v. 22, p. 315 [err. pro *janianus* Coccini]

SANTAROSANA Dall, 1905, Nautilus, v. 19, p. 14; 1921, U.S. Nat. Mus., Bull. 112, pl. 13, figs. 3, 4; California. *MUREXIELLA*

*SAPLISI MacNeil, 1960, U.S. Geol. Sur., Prof. Paper 339, p. 63, pl. 8, figs. 14, 15; Mio-Pliocene, Okinawa. *MUREX s.s.*

SAPPHUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 61; Adriatic.

*SARRONENSIS Carez, 1879, Bull. Soc. Géol. France, (ser. 3) v. 7, p. 638, pl. 12, figs. 6-8, 15; Eocene, France ? *HEXAPLEX*

satonus "Lamarck" Blainville, 1827, Dict. Sci. Nat., v. 45, p. 526 [err. pro *jatonus* Lamarck]

SAULII G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 190, fig. 77; 1841, Proc. Zool. Soc. London, pt. 8, p. 141; Indo-Pacific [? = *carneola* Röding, *rosana* Schumacher, & *elongata* Link]. *CHICOREUS*

SAVIGNYUS delle Chiaje, 1828, Mem. Anim. s. Vert. Napoli, v. 3, p. 222; Mediterranean. CERITHIACEA

**savii* Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name]

SAXATILIS Linné, 1758, Syst. Nat., ed. 10, p. 747; Indo-Pacific [*saxatilis* of Linné is a composite species combining *brunnea* and *cichoreum;* the "*saxatilis*" of authors = *duplex* Röding]

SAXICOLA Broderip, 1832, Zool. Jour., v. 2, p. 202, pl. 11, fig. 3; Indo-Pacific [? = *cichoreum* Gmelin]. *HEXAPLEX*

*SBIPUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 281, as *plicatus* Brocchi var. (for Hörnes, 1856, pl. 25, fig. 10); Miocene, Austria. *ENGINA*

SBIRSUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 258, as *trunculus* var (for Bucquoy, Dautzenberg & Dollfus, 1882, pl. 1, figs. 3, 4); Mediterranean. *HEXAPLEX*

SCABER Olivi, 1792, Zool. Adriat., p. 153, ref. to Gaultieri, pl. 58, fig. 1; Adriatic. CERITHIACEA

scaber Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 419, fig. 6; 1822, Anim. s. Vert., v. 7, p. 173; Mediterranean [Lamarck's illustration is probably *Fusomurex alucoides* (Blainville) but he also figured in pl. 438, fig. 5, a "*Murex scaber* var. b," which ? = *craticulatus* Brocchi = *Ocenebra craticuloides* (Vokes)]. *FUSOMUREX*

SCABEROIDES Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 61; Adriatic. CERITHIACEA

SCABRA [*Purpura*] Link, 1807, Samml. Univ. Rostock, v. 2, p. 121. *HEXAPLEX*

scabra [*Purpura*] Schumacher, 1817, Essai Vers Test., p. 213; Indo-Pacific [= *miliaris* Gmelin, both for Chemnitz, v. 10, figs. 1534, 1535]. *VITULARIA*

scabra [*Purpura*] "Martyn" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 97; Indo-Pacific [? = *brunnea* Link]. *CHICOREUS*

SCABRICULUS Linné, 1758, Syst. Nat., ed. 10, p. 751; West Africa [= *Voluta cancellata* Linné, 1767, changed because of presence of another *V. scabricula,* which is the type of *Mitra (Scabricola)*]. *CANCELLARIA*

*SCABROSA [*Tritonalia*] Dall, 1915, U. S. Nat. Mus., Bull. 90, p. 77, pl. 5, fig. 15; Miocene, Florida. *MURICOPSIS*

SCABROSUS G B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 189, fig. 73; 1841, Proc. Zool. Soc. London, pt. 8, p. 140; Indo-Pacific [? = *laciniatus* G. B. Sowerby II]. *CHICOREUS*

SCALA Gmelin, 1791, Syst. Nat., ed. 13, p. 3551, ref. to Chemnitz, v. 4, vign. 37, figs. a, b, c; Indian Ocean [*Cancellaria scalarina* Lamarck, 1822, is the same species, probably also *Voluta nassa* Gmelin, 1791, which has page priority]. *TRIGONOSTOMA*

scalariformis Gould, 1838, Rept. Comm. Zool. Surv. [Massachusetts], p. 107; North Atlantic [nude name]

*SCALARIFORMIS Nyst, 1861, Bull. Acad. Roy. Belg., (ser. 2) v. 12, p. 194; Glibert, 1952, Inst. Roy. Sci. Nat. Belg. Mém 121, pl. 7, fig. 88; Miocene, Belgium. *CALCITRAPESSA*

**scalariformis* Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 117, pl. 8, fig. 3; Miocene, Italy [see *Ocenebra pedemontana* Cossmann, n.n.]. *OCINEBRINA*

scalariformis Locard, 1886, Prodrome Malac. Française *in* Ann. Soc. Linn. Lyon, (n.s.) v. 32, p. 224 [p. 165 of separate, as *scalaformis*]; 1892, Coq. Mar. Cotes France, p. 101, fig. 82; Mediterranean [unjustified emend. for *scalaroides* Blainville]. *DERMOMUREX*

SCALARINUS Bivona-Bernardi, 1832, Eff. Sci. Litt. Sicilie, v. 2, p. 22, pl. 3, fig. 11; Mediterranean [? = *scalaroides* Blainville]. *DERMOMUREX* (type)

**scalarinus* Millet, 1854, Paléont. Maine et Loire, p. 164; Miocene, France.

scalarinus A. Adams, 1864, Proc. Zool. Soc. London, (1863), p. 508; Australia [? = *Triton speciosus* Angas]. *GALFRIDUS*

*SCALARIS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 407, pl. 9, fig 1; Pliocene, Italy. *OCINEBRINA*

scalaris A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 71; Australia [see *angasi* Tryon, n.n.; ? = *umbilicatus* Tenison-Woods]. ? *MUREXSUL*

SCALAROIDES Blainville, 1829, Faune Française, p. 131, pl. 5A, figs. 5, 6; Mediterranean [often spelled *scalarioides,* see also *scalarinus* Bivona, *leucoderma* Scacchi, *scalariformis* Locard]. *DERMOMUREX* (type, as *scalarinus* Bivona)

SCALATA [*Muricidea*] Monterosato, 1884, Nomen. Conch. Medit., p. 111, as *spinulosus* Costa var.; Mediterranean. *CORALLIOPHILA*

*SCARROSUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 125, pl. 8, fig. 15; Miocene, Italy [? = *concrispatus* Bellardi. Comparison of Bellardi's type specimens in the Mayer collection shows that these two species are certainly the same; therefore, as first revisor the writer selects *scarrosus,* which has priority on the same page and an entire type specimen.] *LATIMUREX*

schmeltzianus "Dunker" Paetel, 1883, Conchyl.-Samml., p. 3 [nude name, never described]

*SCHOENNI [emend.] Hörnes, 1853, Foss. Moll. Wien, v. 1, *in* Abh. K.K. Geol. Reichsanst., v. 3, p. 235, pl. 24, fig. 12; Miocene, Austria [orig. as *schönni;* see note after *borni* Hörnes]. *OCINEBRINA*

*SCOBINA [*Murexsul*] Finlay, 1930, Trans. New Zealand Inst., v. 61, p. 74, pl. 1, fig. 1; Miocene, New Zealand. *MUREXSUL*

SCOLOPACEUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3548, ref. to Knorr, pt. 3, pl. 26, fig. 4. CERITHIACEA

scolopaceus Röding, 1798, Museum Boltenianum, p. 144, ref. to Favanne, pl. 38, fig. B 2; Indo-Pacific [? = *haustellum* Linné]. *HAUSTELLUM*

SCOLOPAX Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 681, ref. to Chemnitz, v. 11, figs. 1819, 1820, & Martini, v. 3, fig. 1052; Indo-Pacific. *MUREX s.s.*

scolymus Gmelin, 1791, Syst. Nat., ed. 13, p. 3553; West Atlantic [= *Voluta angulata* Lightfoot, both for Chemnitz, v. 4, fig. 1325]. *TURBINELLA*

*SCOPULORUM Pilkington, 1804, Trans. Linn. Soc. London, v. 7, p. 117, pl. 11, fig. 6; Eocene, England. *NUCELLA*

*_scopulum_ Monterosato *in* Segre, 1954, Boll. Serv. Geol. Ital., v. 76, pl. 2, fig. 12 [not in text] as [*Purpura*] *edwardsi* var.; Pleistocene, Italy [not valid, no description, Code Art. 13]. ? *CORALLIOPHILA*

SCORPIO Linné, 1758, Syst. Nat., ed. 10, p. 747; Indo-Pacific. *HOMALOCANTHA* (type)

*SCORPIONIUS Olsson, 1930, Bull. Amer. Paleont., v. 17, No. 62, p. 58, pl. 11, figs. 3, 4, 10; Eocene, Peru. ? *PTERYNOTUS*

SCRIPTUS Linné, 1758, Syst. Nat., ed. 10, p. 755; Mediterranean. *MITRELLA* (type, as *flaminea* Risso)

SCROBILATOR Linné, 1758, Syst. Nat., ed. 10, p. 749; Mediterranean [spelling emended in Edition 12 to *scrobiculator* and usually cited as such]. *BUFONARIELLA* (type, as *scrobiculator*)

SCULPTA Jeffreys, 1867, Brit. Conch., v. 4, p. 308, as *erinaceus* var.; East Atlantic. *OCENEBRA*

*_sculptus_ Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 102, pl. 7, fig. 11; Miocene, Italy. ? *TROPHON*

*SDILCUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 282, as *plicatus* Brocchi var.; Pliocene, Italy. *ENGINA*

*SDINPOS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 252; Miocene, Italy. ? *LATIAXIS*

SECUNDUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 169; Kiener, 1842, Coq. Viv., v. 7, pl. 8, fig. 2; Australia. *HOMALCANTHA*

*SEDGWICHII Michelotti, 1841, Monografia *Murex,* p. 15, pl. 4, figs. 1, 2; Miocene, Italy. [Although spelled *sedgwicki* by subsequent authors, Michelotti's usage of H not K was deliberate and is not an inadvertent error (Code, Art. 32(a)ii) to be emended.] *CHICOREUS*

*SELBYENSIS Clark, 1915, Univ. Calif. Publ., Bull. Geol., v. 8, No. 22, p. 502, pl. 67, figs. 2, 5, 7; Miocene, California. ? *OCENEBRA*

SEMICLAUSUS Küster, 1869, Conchyl.-Cab., ed. 2, v. 3, pt. 2, p. 111, pl. 34, figs. 6, 7; ? Mediterranean [? = *Purpura edwardsi* Payraudeau]. *OCINEBRINA*

**semicostatus* "Rouault" Sherborn, 1922, Index Anim., 1801-1850, p. 5855 [err. pro *septemcostatus* Rouault]

SEMILUNARIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3549, ref. to Adanson, pl. 8, fig. 15; West Africa. *CANCELLARIA*

*SENAX [*Aspella*] Dall, 1903, Trans. Wagner Free Inst. Sci., v. 3, pt. 6, pl. 60, fig. 14 [not in text]; Pliocene, Florida. *ASPELLA*

SENEGALENSIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3537, ref. to Adanson, pl. 8, fig. 19; Brazil. *SIRATUS* (type, as *"Purpura sirat* Adanson")

SENEGALLA [*Purpura*] Röding, 1798, Museum Boltenianum, p. 140, ref. to Martini, v. 3, figs. 1027, 1028 [? = *erinaceus* Linné]. *OCENEBRA*

*SENENSIS D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, p. 345, pl. 7, fig. 4; Pliocene, Italy. *HADRIANIA*

SENILIS Jousseaume, 1874, Rev. Mag. Zool., (ser. 3) v. 2, p. 5, pl. 1, figs. 5, 6; Indo-Pacific [? = *macgillivrayi* Dohrn]. *MUREX s.s.*

SENTICOSUS Linné, 1758, Syst. Nat., ed. 10, p. 751; Indo-Pacific. *PHOS* (type)

SEPTANGULARIS Montagu, 1803, Test. Brit., v. 1, p. 268, pl. 9, fig. 5; Mediterranean. *HAEDROPLEURA* (type)

SEPTEMANGULATUS Donovan, 1805, Brit. Shells, v. 5, pl. 179, fig. 4; Mediterranean [? = *septangularis* Montagu, ? err. pro]. *HAEDROPLEURA*

*SEPTEMCOSTATUS Rouault, 1850, Mém. Soc. Géol. France, (ser. 2) v. 3, p. 493, pl. 17, fig. 18; Eocene, France. *PAZIELLA*

*SEPTEMNARIUS Conrad, 1834, Jour. Acad. Nat. Sci. Phila., v. 7, p. 154; Eocene, Alabama [also spelled *septenarius* by Conrad, 1865; ?? = *vanuxemi* Conrad]. *HEXAPLEX*

*SEPTEMVARICOSA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 22, pl. 6, fig. 11, as *conglobatus* var.; Pliocene, Italy. *HEXAPLEX*

*SEPTIMA [*Poirieria*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 22, pl. 4, fig. 5; Miocene, Mexico. *PAZIELLA*

SEROTINUS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 268; Hedley, 1913, Proc. Linn. Soc. New South Wales, v. 38, pl. 19, fig. 78 (syntype). *DRUPA*

**serpularius* Schlotheim, 1832, System. Verz. Petrefacten-Samml., p. 38; Oligocene, Germany [nude name]

SERRATOSPINOSUS Dunker, 1883, Malak. Blätter, (n.s.) v. 6, p. 35, pl. 1, figs. 4, 5; Indo-Pacific. ? *SIRATUS*

*SERZUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 281, as *plicatus* Brocchi var. (for Bellardi, 1872, pl. 12, fig. 21); Miocene, Italy. *ENGINA*

*SEXANGULA Dall, 1915, U.S. Nat. Mus., Bull. 90, p. 74, pl. 13, fig. 11; Miocene, Florida. *TAKIA*

*SEXANGULUS [*Fusus*] Conrad, 1834, Jour. Acad. Nat. Sci. Phila., v. 7, p. 144; Eocene, Alabama [? = *engonatus* Conrad]. *HEXAPLEX*

**sexcostata* Emmons, 1858, Rept. North Carolina Geol. Sur., p. 248, fig. 106; Pliocene, North Carolina [= *floridanus* Vokes]. *CHICOREUS*

SEXCOSTATUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 441, fig. 3; ? West Africa [? = *angularis* Lamarck]. *HEXAPLEX*

*SEXDENTATUS J. de C. Sowerby, 1823, Mineral Conch., v. 5, p. 10, pl. 411, fig. 3; Oligocene, England. *NUCELLA*

*SHILOHENSIS Heilprin, 1888, Proc. Acad. Nat. Sci. Phila., v. 39, p. 404; Whitfield, 1894, U.S. Geol. Sur., Mon. 24, pl. 17, fig. 1; Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, pl. 6, fig. 3 (holotype); Miocene, New Jersey. *MUREXIELLA*

*SHIRLEYAE [*Chicoreus*] E. H. Vokes, 1966, Tulane Stud. Geol., v. 5, No. 1, p. 36, text fig. 1; Miocene, Florida. *CHICOREUS*

*SICANUS de Gregorio, 1881, Fauna Argille Scagliose Sicilia, p. 12, pl. 2, fig. 15, *sublavatus* var.; Eocene-Oligocene, Italy.

*SIDILLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 235, as *polymorphus* var.; ? Pliocene, Italy. *OCENEBRA*

*SIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 243, as *craticulatus* Brocchi var.; Pliocene, Italy. *OCINEBRINA*

*SILVATICUS Palmer, 1937, Bull. Amer. Paleont., v. 7, No. 32, p. 264, pl. 35, figs. 10, 14 as *vanuxemi* var.; Eocene, Louisiana, Texas, Mississippi. *HEXAPLEX*

similis Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 120; Indo-Pacific [= *Voluta polygona* Gmelin, both for Chemnitz, v. 4, figs. 1401, 1402; *Mitra angulosa* Küster, 1839, is the same species]. *COSTELLARIA*

similis G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 189, fig. 70; 1841, Proc. Zool. Soc. London, pt. 8, p. 140; West Atlantic [? = *cailleti* Petit; see *kugleri* Clench & Pérez Farfante, n.n.]. *SIRATUS*

**similis* Fuchs, 1870, Denkschr. K. Akad. Wissen. Wien, v. 30, p. 191, pl. 9, figs. 3, 4; Eocene, Italy [see *fuchsi* Bayan, n.n.]. *HEXAPLEX*

simonianus "Petit de la Saussaye" Gaudion, 1881, Bull. Soc. Sci. Nat. Béziers, Année 3, p. 78 [nude name, never described]

*SIMPLEX Philippi, 1841, Tertiärverst. N.-W. Deutsch., p. 26, pl. 4, fig. 22; Oligocene, Germany [? = *Typhis cuniculosus* Nyst]. *LYROTYPHIS*

**simplex* Aldrich, 1886, Alabama Geol. Sur., Bull. 1, pt. 1, p. 19, pl. 5, fig. 8; Oligocene, Mississippi [see *macneili* Vokes, n.n.]. *PANAMUREX*

*SINDIENSIS Vredenberg, 1928, Palaeont. Indica, (n.s.) v. 10, No. 4, p. 39 (for Cossmann & Pissaro, 1909, pl. 4, fig. 14); Eocene, India. ? *PTERYNOTUS*

SINENSIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3542, ref. to Adanson, pl. 10, fig. 3; West Atlantic. *CERITHIUM*

sinensis Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 6, fig. 24 [not fig. 25, as stated]; 1846, Proc. Zool. Soc. London, pt. 13, p. 85; Indo-Pacific [see *asianus* Kuroda, n.n.]. *CHICOREUS*

SINGAPORENSIS A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 270; Indo-Pacific.

SINUOSUS Montagu, 1803, Test. Brit., v. 1, p. 264, pl. 9, fig. 8; North Atlantic. TURRIDAE

SIPHONIFERUS Lesson, 1844, Écho Monde Savant, v. 11, p. 568; East Pacific. TYPHINAE

sirat d'Orbigny, 1841, Voyage Amér. Mérid., Moll., v. 5, pt. 3, p. 453; Brazil [= *senegalensis* Gmelin, both for Adanson, pl. 8, fig. 19]. *SIRATUS*

*SISMONDAE Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 47, pl. 4, fig. 4; Miocene, Italy. *BOLINUS*

SMITHI [*Ocinebra*] Schepman, 1911, Exped. *Siboga,* v. 49, pt. 1-D, p. 349, pl. 21, fig. 3; Indo-Pacific. *PAZINOTUS*

*SMITHII J. de C. Sowerby, 1827, Mineral Conch., v. 6, p. 151, pl. 578, figs. 1-3; Eocene, England. *PRISCOFICUS*

*SNAPI Suklje, 1929, Bull. Inst. Géol. Zagreb, v. 3, p. 24, pl. 3, fig. 1; Miocene, Yugoslavia. *PTEROPURPURA*

snissodus "Euthyme" Mitchell, 1890, Zool. Rec., v. 26 (1889), Moll. p. 53 [err. pro *cnissodus* Euthyme]

*SOBRANTENSIS Clark, 1918, Univ. Calif. Publ., Bull. Geol., v. 11, No. 2, p. 176, pl. 23, fig. 3; Oligocene, California. ? *UROSALPINX*

SOBRINUS A. Adams, 1863, Proc. Zool. Soc. London (1862), p. 370; Smith, 1880, Proc. Zool. Soc. London, (1879), pl. 20, fig. 30; Japan. *MUREX s.s.*

*SOELLINGENSIS [emend.] Speyer, 1860, Zeitsch. Deutsch. Geol. Gesell., v. 12, p. 478, pl. 11, fig. 1; Oligocene, Germany [? = *tristichus* Beyrich; orig. as *söllingensis*]. TROPHONINAE

SOFIAE Aradas & Benoit, 1870, Conch. Viv. Marina Sicilia, p. 270, pl. 5, fig. 7; Mediterranean. *CORALLIOPHILA*

*SOLDANII Meneghini *in* de Stefani, 1875, Boll. Soc. Malac. Ital., v. 1, p. 80, pl. 2, fig. 1; Pliocene, Italy. *HEXAPLEX*

*SOLIDUS Anton, 1839, Verz. Conch., p. 80; Eocene, France. ? *HEXAPLEX*

solidus A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 267; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 246; West Africa [? = *cellulosus* Conrad]. *FAVARTIA*

*SOLIDUS [*Pterynotus*] Shuto, 1969, Mem. Fac. Sci. Kyushu Univ., Ser. D, Geol., v. 19, No. 1, p. 105, pl. 8, figs. 5, 9, as *sondeianus* subsp.; Miocene, Philippine Islands. *NAQUETIA*

*SONDEIANUS Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 1, pt. 5, p. 128, pl. 19, fig. 292; Pliocene, Java. *NAQUETIA*

*SOPENAHENSIS Weaver, 1912, Washington Geol. Sur., Bull. 15, p. 48, pl. 1, fig. 8; Eocene, Washington. *HEXAPLEX*

SORDIDUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3561, ref. to Chemnitz, v. 4, fig. 1490. CERITHIACEA

SOWERBIANUS Poirier, 1883, Nouv. Arch. Mus. Hist. Nat., (ser. 2) v. 5, p. 78; West Africa [for *turbinatus* Reeve, 1845, pl. 3, fig. 15 & G. B. Sowerby II, 1879, fig. 185, *non* Lamarck]. *HEXAPLEX*

*SOWERBYI Michelotti, 1841, Monografia *Murex,* p. 8, pl. 1, figs. 14, 15; Miocene, Italy. *OCENEBRA*

sowerbyi Kobelt, 1877, Jahr. Malak. Gesell., v. 4, p. 248; ? East Pacific [n.n. pro *octogonus* G. B. Sowerby II *non* Q. & G., see also *obtusus* G. B. Sowerbey II *non* Bellardi; ? = *humilis* Broderip, ? = *norrisi* Reeve]. *MUREXIELLA*

SPADAE Libassi, 1859, Atti Accad. Palermo, v. 3, p. 43, fig. 29; Mediterranean. *ORANIA* (type)

SPECIOSUS A. Adams, 1855, Proc. Zool. Soc. London, pt. 23, p. 121; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 125; ? Japan [? = *centrifuga* Hinds]. *PTEROPURPURA*

SPECTRUM Reeve, 1846, Conch. Icon., v. 3, *Murex,* pl. 36, fig. 187; West Atlantic. *CHICOREUS*

SPENGLERI Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 700, ref. to Chemnitz, v. 11, figs. 1839, 1840; Australia [*Septa spengleri* Perry, 1811, is ? the same species; *Triton spengleri* Lamarck, 1822, is the same species]. *CABESTANA*

*SPICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 264, as *trunculus* var. (for D'Ancona, 1871, pl. 6, fig. 6); Pliocene, Italy [see also *loescheri* de Gregorio]. *HEXAPLEX*

*SPINATUS Gabor, 1936, Ann. Hist. Nat. Mus. Natl. Hung., v. 30, p. 5, pl. 1, fig. 11, as *trigonalis* var.; Oligocene, Hungary. *CHICOREUS*

*SPINICOSTA Bronn, 1828, Zeitsch. Min., pt. 2, p. 533; D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, pl. 2, fig. 5; Mio-Pliocene, Italy. *MUREX s.s.*

spinicosta Valenciennes *in* Kiener, 1842, Coq. Viv., v. 7, p. 49, pl. 41, fig. 1; West Atlantic [see note after *alveatus* Kiener; ? = *fulvescens* G. B. Sowerby II]. *HEXAPLEX*

*SPINIFERA Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, p. 93, pl. 7, fig. 20, as *inornatus* Beyrich var.; Miocene, Germany [? = *inornatus* Beyrich, see *beyrichi* von Koenen]. *BOLINUS*

**spinosa* "D'Ancona" Montanaro, 1935, Palaeont. Ital., v. 35, p. 23, pl. 2, fig. 2, as *hoernesi* "Michelotti" var.; Miocene, Italy [= *spicus* de Gregorio, both for D'Ancona, 1871, pl. 6. fig. 6]. *HEXAPLEX*

SPINOSUS Molina, 1810, Sag. Storia Nat. Chile, ed. 2, p. 178; Chile. ? _TROPHON_

spinosus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 692; Indo-Pacific [= _varietas_ Davies _in_ Pennant, both for Lister, pl. 949, fig. 44; _Ranella spinosa_ Lamarck, 1822, & _Biplex spinosa_ Perry, 1811, are also same species]. _BURSA_

spinosus Philippi, 1836, Enum. Moll. Siciliae, v. 1, p. 210, as _cristatus_ Brocchi var.; Mediterranean [nude name]. _MURICOPSIS_

spinosus A. Adams, 1853, Proc. Zool. Soc. London, pt. 19, p. 268; G. B. Sowerby II, 1879, Thes. Conch., v. 4, _Murex,_ fig. 180 [only]; West Africa [? = _kusterianus_ Tapparone-Canefri]. _HEXAPLEX_

SPINOTUBERCULATUS Serradell, 1912, Asoc. Cienc. Nat. Barcelona, v. 1, p. 10, fig. 9, as _brandaris_ var.; Mediterranean. _BOLINUS_

spinule [_Purpura_] Röding, 1798, Museum Boltenianum, p. 141 [nude name]

*_spinulosa_ Heilprin, 1887, Trans. Wagner Free Inst. Sci., v. 1, p. 108, pl. 15, fig. 41, Miocene, Florida [see _heilprini_ Cossmann, n.n.]. _PANAMUREX_

SPINULOSA [_Muricopsis_] Stalio _in_ Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, pl. 6, fig. 60, as _blainvillei_ var.; Adriatic. _MURICOPSIS_

*SPINULOSUS Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 590, pl. 81, figs. 13-15; Eocene, France. _PAZIELLA_

spinulosus Costa, 1861, Microdoride Medit., v. 1, p. 56, pl. 9, fig. 2; Mediterranean. _CORALLIOPHILA_

*SPIRALATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 23, pl. 6, fig. 32, as _imbricatus_ Brocchi var.; Pliocene, Italy. _OCINEBRINA_

SPIRILLUS Linné, 1767, Syst. Nat., ed. 12, p. 1221; Indo-Pacific. _TUDICLA_ (type)

SPIROCAUDATA Coen, 1934, Boll. Soc. Veneziana Stor. Nat., v. 1, No. 4, p. 43, pl. 2, figs. 1, 2, as _brandaris_ var.; Mediterranean [= pathologic _brandaris_ Linné]. _BOLINUS_

spondylium [Lightfoot], 1786, Cat. Portland Mus., pp. 172, 182 [nude name]

SPRINGERI Bullis, 1964, Tulane Stud. Zoology, v. 11, No. 4, p. 104, figs. 7, 8; West Atlantic. _SIRATUS_

SQUAMOSUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 176; G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 61, fig. 27; Peru. ? _CORALLIOPHILA_

SQUAMULA Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 107.

SQUAMULATA [_Muricidea_] Carpenter, 1866, Proc. Zool. Soc. London, (1865), p. 281, as _dubius_ G. B. Sowerby II var.; Gulf of California [? = _armatus_ Adams]. _MURICOPSIS_

*SQUAMULATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 422, pl. 8, fig. 13; Pliocene, Italy. ? _PAGODULA_

*_squamulatus_ Risso, 1826, Hist. Nat. Europe, v. 4, p. 199; ? Pliocene, France.

STAINFORTHI Reeve, 1843, Proc. Zool. Soc. London, pt. 10, p. 104; 1845, Conch. Icon., v. 3, _Murex,_ pl. 17, fig. 68; Australia. _HEXAPLEX_ (type—_Bassiella_ Wenz)

*STAMINATUS Millet, 1866, Paléont. Maine et Loire, p. 17; Miocene, France.

*_stampiensis_ Deshayes _in_ Sandberger, 1863, Conch. Mainzer Tertiärbeckens, p. 214; Oligocene, France [in synonymy of _areolifer_ Sandberger; ? = _pereger_ Beyrich]. _MURICOPSIS_

*STAZZANENSIS Bongo, 1914, Boll. Soc. Geol. Ital., v. 33, p. 405, pl. 7, fig. 2; Miocene, Italy. _OCENEBRA_

STEARNSI Dall, 1918, Nautilus, v. 32, p. 26; Smith, 1939, Illus. Cat. Rock Shells, pl. 11, fig. 1 (? holotype); East Pacific [? = _oxycantha_ Broderip]. _HOMALOCANTHA_

STEERIAE Reeve, 1845, Conch. Icon., v. 3, _Murex,_ pl. 8, fig. 28; 1846, Proc. Zool. Soc. London, pt. 13, p. 85; Indo-Pacific. _CHICOREUS_

*STENZELI [_Pterynotus_] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 8, pl. 1, fig. 5; Eocene, Texas. _PTERYNOTUS_

*STEPHANI Noszky, 1940, Ann. Hist. Nat. Mus. Natl. Hung., v. 33, p. 28, pl. 11, fig. 4; Oligocene, Hungary. _HARMATIA_ (type)

*STETOPUS de Gregorio, 1890, Ann. Géol. Paléont., livr. 7, p. 96, pl. 7, fig. 34; Vokes, 1967, Tulane Stud. Geol., v. 5, No. 3. pl. 1, fig. 1 (holotype); ? Oligocene, Mississippi. _PHYLLONOTUS_

STIMPSONI [_Pteronotus_] A. Adams, 1863, Proc. Zool. Soc. London, (1862), p. 371; G. B. Sowerby II, 1879, Thes. Conch., v. 4, _Murex,_ fig. 196; Japan. _PTEROPURPURA_

STIMPSONII [_Eupleura_] Dall, 1889, Bull. Harvard Mus. Comp. Zool., v. 18, p. 204; 1890, Proc. U. S. Nat. Mus., v. 12, pl. 11, fig. 3; West Atlantic. _PAZINOTUS_ (type)

*STOPPANI de Gregorio, 1880, Faune S. Giovanni Ilarione, pt. 1, fasc. 1, p. 97, pl. 7, figs. 48-52; Eocene, Italy. _PTERYNOTUS_

STRAMINEUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3542, ref. to Chemnitz, v. 10, figs. 1520, 1521; New Zealand. _STRUTHIOLARIA_ (type, as _nodulosa_ Lamarck)

STRAUSI Verrill, 1950, Mins. Conch. Club So. Calif., No. 103, p. 4, text fig.; West Atlantic. _HEXAPLEX_ (type — _Aaronia_ Verrill)

*STRIAEFORMIS Michelotti, 1841, Monografia _Murex,_ p. 18; 1847, Nat. Vehr. Hollandsche Wetensch. Haarlem, (ser. 2) v. 3, pl. 11, fig. 7; Miocene, Italy. _OCENEBRA_

*STRIATISSIMUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 64, pl. 4, fig. 13; Miocene, Italy. _OCENEBRA_

*STRIATULIFORMIS [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 137; Oligocene, Germany, ? _SASSIA_

STRIATULUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3557, ref. to Chemnitz, v. 4, figs. 1351, 1352; Mediterranean. _FUSINUS_

*_striatulus_ Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 225; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 80, figs 13-15; Eocene, France. _SASSIA_

STRIATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3530, ref. to Martini, v. 3, fig. 1016; ? India. _HEXAPLEX_

*_striatus_ J. Sowerby, 1813, Mineral Conch., v. 1, p. 61, pl. 22; Pleistocene, England [? = _antiquus_ Linné]. _NEPTUNEA_

*STRICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 252, as _funiculosis_ var.; Miocene, Italy. _HADRIANIA_

STRIGATUS Reeve, 1849, Conch. Icon., v. 3, _Murex,_ Suppl. pl. 1, fig. 189; ? Indo-Pacific. _CHICOREUS_

*_strigulatus_ Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name]

STROMBIFORMIS Salis, 1793, Reisen Neapel, p. 373, ref. to Gualtieri, pl. 52, fig. D; Mediterranean. CERITHIACEA

*_strombiformis_ [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 144; Cretaceous, Germany. _PARAGLAUCONIA_

*STUERI Cossmann, 1889, Cat. Illus. Coq. Foss. Paris, v. 4, p. 125, pl. 4, fig. 14; Eocene, France. _MUREXIELLA_

SUBACICULATUS Locard, 1886, Prodrome Malac. Française _in_ Ann. Soc. Linn. Lyon, (n.s.) v. 32, p. 222 [p. 164 of separate]; Mediterranean [for _aciculatus_ Hidalgo, 1870, pl. 13, figs. 7, 8, _non_ Lamarck]. _OCINEBRINA_

*SUBACINGULATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 23, pl. 6, fig. 28, as _concerptus_ var.; Pliocene, Italy. _OCINEBRINA_

*_subalveolatus_ [_Muricopsis_] Cossmann, 1907, Rev. Crit. Paléozool., v. 11, p. 200; Miocene, Australia [unnecessary n.n. pro _alveolatus_ Tate _non_ J. de C. Sowerby, see _graniformis_ Harris]. _FUSOMUREX_

*SUBANCEPS [*Ranella*] d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 77; Miocene, France [for *Ranella anceps* Grateloup, 1847, pl. 30, figs. 28, 30, *non* Lamarck]. *ASPELLA*

SUBANGULATA [*Muricidea*] Stearns, 1873, Proc. Calif. Acad. Sci., v. 5, p. 81, pl. 1, fig. 4; California. ? *UROSALPINX*

*SUBANGULATUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 574; Eocene, France [n.n. pro *cingulatus* Lamarck, 1803, *non* Gmelin]

subantiquatus Maton & Rackett, 1807, Trans. Linn. Soc. London, v. 8, p. 147; England [for *antiquus* Pennant, Donovan, & Montagu, *non* Linné = *duplicatus* Donovan]. *NEPTUNEA*

**subapenninica* "Fontannes" Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 98 [C. & P. stated that Fontannes (1879, p. 2), attributed the specimens of *spinicosta* Bronn from Illas to a species *subapenninica,* but in fact he did no such thing.]

*SUBASPERRIMUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 73; Miocene, France [for *asperrimus* Grateloup, 1847, pl. 31, fig. 15, *non* Lamarck]. *HEXAPLEX*

*SUBBRANDARIS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 72; Miocene, France [for *brandaris* Grateloup, 1847, pl. 31, fig. 1, *non* Linné]. *BOLINUS*

*SUBCANALICULATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 150; Eocene, Italy. CERITHIACEA

**subcarinata* Friedberg, 1912, Mieczaki Miocen. *in* Muz. Dzieduszyckich, v. 14, No. 2, p. 173, pl. 11, fig. 5, as *holubicensis* var.; Miocene, Poland. *MURICOPSIS*

*SUBCARINATUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 175; Kiener, 1842, pl. 46, fig. 1; ? Pliocene, Italy [? = *polymorphus* Brocchi]. *OCENEBRA*

*SUBCLATHRATUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 74; Miocene, France [n.n. pro *Fusus clathratus* Dujardin *non* J. de C. Sowerby, although said to be *non Murex clathratus* Linné]. NASSARIIDAE

*SUBCONGLOBATUS Millet, 1866, Paléont. Maine et Loire, p. 18; Miocene, France [? = *turonensis* Dujardin]. *HEXAPLEX*

*SUBCONTABULATUS Millet, 1854, Paléont. Maine et Loire, p. 163; Miocene, France. ? *PTERYNOTUS*

*SUBCORNEUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 76; Pleistocene, England [for *corneus* J. Sowerby, 1813, pl. 35, fig. 1, *non* Linné]. *EUTHRIA*

*SUBCORONATUS d'Orbigny, 1850, Prodrome Paléont., v. 2, p. 364; Eocene, England [n.n. pro *coronatus* J. Sowerby *non* Born]. *PAZIELLA*

*SUBCOSTATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 146; ? Eocene, Germany.

**subcostellatus* Schlotheim, 1832, System. Verz. Petrefacten-Samml., p. 38; Oligocene, Germany [nude name]

*SUBCRISTATUS d'Orbigny, 1850, Prodrome Paléont., v. 2, p. 364; Eocene, England [n.n. pro *cristatus* J. Sowerby *non* Brocchi]. *POIRIERIA*

*SUBCUTACEUS Libassi, 1859, Atti Accad. Sci. Lett. Palermo, (n.s.) v. 3, p. 42, fig. 18; Pliocene, Italy. *CABESTANA*

*SUBDECUSSATUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 72; Miocene, France [n.n. pro *decussatus* Grateloup *non* Gmelin]. *FAVARTIA*

*SUBDISTORTUS d'Orbigny, 1850, Prodrome Paléont., v. 2, p. 364; Eocene, France [n.n. pro *distortus* Deshayes *non* Brocchi]. *PTERYNOTUS*

*SUBERINACEUS Basterot, 1825, Mém. Soc. Hist. Nat. Paris, v. 2, p. 60, pl. 4, fig. 15; Miocene, France. *CHICOREUS*

*SUBEXIGUUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 72; Oligocene, France [for *exiguus* Grateloup, 1847, pl. 30, fig. 33, *non* Dujardin]. ? *HEXAPLEX*

*SUBFRONDOSUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 72; Miocene, France [for _frondosus_ Grateloup, 1847, pl. 31, fig. 7 (only, fig. 8 = var. _rostralis), non_ Lamarck]. _MURICOPSIS_

*_subfrondosus_ Cossmann, 1897, Moll. Éocén. Loire-Infer., v. 1, fasc. 3, _in_ Bull. Soc. Sci. Nat. Ouest France, Nantes, v. 7, p. 323 (137), pl. 6 (11), figs. 39, 40; Eocene, France [see _marchandi_ Cossmann, n.n.]. _MUREXIELLA_

*SUBFUSIFORMIS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 15; Oligocene, Belgium [n.n. pro _fusiformis_ Nyst _non_ Gmelin]. ? _ODONTOPOLYS_

SUBGLOBOSUS Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 23; ? West Atlantic [? = _Pyrula abbreviata_ Lamarck = "_Murex galea_ Chemnitz"]. _CORALLIOPHILA_

*SUBGRANIFER Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine _in_ Actes Soc. Linn. Bordeaux, v. 75, p. 99, pl. 17, fig. 34, & pl. 18, fig. 2; Miocene, France [for _granifer_ Benoist, 1873, _non_ Michelotti]. _SUBPTERYNOTUS_

*SUBGRANULATUS [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 140; Oligocene; Germany. ? TURRITELLIDAE

*SUBHEPTAGONATUS Almera & Bofill, 1898, Bol. Com. Mapa Geol. España, (ser. 2) v. 4, p. 7, pl. 11, fig. 20; Pliocene, Spain [? = _absonus_ Cristofori & Jan]. _MUREXIELLA_

*SUBHEXAGONUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 76; Tertiary, East Indies [n.n. pro _Fusus hexagonus_ J. de C. Sowerby _non_ Anton, although said to be _non Murex hexagonus_ Gmelin; see also _exhexagonus_ Vredenberg]. ? _CANTHARUS_

*SUBINCRASSATUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 75; Pleistocene, England [n.n. pro _Buccinum incrassatum_ J. de C. Sowerby (= _Murex_ Nyst, 1843) _non_ Ström, although said to _non Tritonium incrassatus_ Müller (= _Murex_ Gmelin, 1791)]. _NUCELLA_

*SUBITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 246, as _anconae_ var.; Neogene, Italy. ? _ENGINELLA_

*SUBLAEVIS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 104, pl. 3, fig. 3; Eocene, Australia. _POIRIERIA_

*_sublaevis_ Schaffer, 1912, Abh. K.K. Geol. Reichsanst., v. 22, p. 142, pl. 50, figs. 9-12, as _erinaceus_ var.; Miocene, Europe [for _erinaceus_ Michelotti, 1841, Hörnes, 1853, Bellardi, 1872, Hoernes & Auinger, 1885, _non_ Linné; see _orgellus, asipus, asgonus_ de Gregorio]. _OCENEBRA_

*SUBLAVATUS Basterot, 1825, Mém. Soc. Hist. Nat. Paris, v. 2, p. 59, pl. 3, fig. 23; Miocene, France. _OCINEBRINA_

*SUBMARGINATUS d'Orbigny, 1852, Prodrome Paléont. v. 3, p. 74; Miocene, France [n.n. pro _Fusus marginatus_ Dujardin _non_ Lamarck, although said to be _non Certhium marginatum_ Bruguière (= _Murex_ Brocchi, 1814]. BUCCINIDAE

SUBMISSUS E. A. Smith, 1903, Fauna Maldive & Laccadive Arch., v. 2, p. 609, pl 35, fig. 13; Indian Ocean. ? _CORALLIOPHILA_

*SUBMUTICA Grateloup, 1847, Conchyl. Adour, Atlas. Ranelles, pl. 3 [pl. 31], fig. 4, as _rectispina_ var.; Miocene, France. _MUREX s.s._

*_subnodiferus_ d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 75; Miocene, Italy [? unnecessary n.n. pro _nodiferus_ Michelotti _non_ Costa, not found]

*SUBOBLONGUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 73; Miocene, France [n.n. pro _oblongus_ Grateloup _non_ Brocchi; this is the shell frequently cited by European workers as "_incisus_ Broderip" or "_excisus_ Grateloup;" the "_suboblongus_" figured by Cossmann & Peyrot, 1923, pl. 12, figs. 21-23, is _subdecussatus_ d'Orb.] _FAVARTIA_

*SUBOCTOGONUS [_Hexaplex_] Ludbrook, 1958, Trans. Roy. Soc. So. Aust., v. 81, p. 57, pl. 2, fig. 17; Pliocene, Australia. _MUREXSUL_

*SUBPLICATILIS Edwards _in_ Wrigley, 1930, Proc. Malac. Soc. London, v. 19, p. 108, pl. 9, fig. 12; Eocene, England. ? _MUREXSUL_

*SUBPRODUCTUS Fontannes, 1878, Bull. Soc. Géol. France, (ser. 3) v. 6, p. 513, pl. 5, fig. 1; Miocene, France. BUCCINIDAE

*SUBQUADRIFRONS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 15; Oligocene, France [n.n. pro *quadrifrons* Grateloup *non* Lamarck]. *CHICOREUS*

*SUBRUDIS d'Orbigny, 1850, Prodrome Paléont., v. 2, p. 417; Eocene, France [n.n. pro *rudis* Deshayes *non* Borson]. *MUREXIELLA*

**subrudis* "Borson" d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 75 [err. pro *rudis* Borson]

*SUBRUGOSUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 76; Pleistocene, England [for *rugosus* var. β J. Sowerby, 1818, pl. 199, figs. 1, 2, *non* Parkinson, although said to be *non* Linné; name changed by J. de C. Sowerby, 1835, to *Fusus costatus* var. β]. ? TURRIDAE

**subscalarioides* Tournouër *in* Benoist, 1880, Actes Soc. Linn. Bordeaux, v. 34, p. 165; Oligocene, France [nude name]. *DERMOMUREX*

*SUBSPINICOSTA Fuchs, 1870, Denkschr. K. Akad. Wissen. Wien, v. 30, p. 191, pl. 9, figs. 21-23; Eocene, Italy. *PTERYNOTUS*

**subspinosa* Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 18, pl. 4, figs. 25, 26, as *partschi* var.; Miocene, Italy. *BOLINUS*

SUBSPINOSUS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 72; Mediterranean [? = *blainvillei* Payraudeau, also var. *bicolor* Monterosato]. *MURICOPSIS*

*SUBSTRIATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 138; Oligocene, Germany. ? CERITHIACEA

*SUBTORULARIUS Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, p. 200; Miocene, Austria [= *gapus* de Gregorio, 1885, both for Hörnes, 1856, pl. 26, figs. 3, 4; not known which taxon is older]. *BOLINUS*

*SUBTRICARINATUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 15; Oligocene, France [for *tricarinatus* Grateloup, 1847, pl. 31, fig. 21, *non* Lamarck]. *PTERYNOTUS*

**subtricarinoides* d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 15; Eocene, France. [Said to be for *tricarinoides* Hébert, 1849, *non* Deshayes, but Hébert only employed the name in comparison with his *brevicauda,* which is *tricarinatus* Nyst, 1843, *non* Lamarck]. *PTERYNOTUS*

*SUBTRUNCULUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 72; Miocene, France [for *trunculus* Grateloup, 1847, pl. 30, figs. 1, 8, *non* Linné; ? = *subasperrimus* d'Orbigny]. *HEXAPLEX*

SUBULATUS Montagu, 1808, Test. Brit., Suppl., p. 115, pl. 30, fig. 6; ? England. *CERITHIOPSIS*

**subulatus* Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 426, pl. 8, fig. 21; Pliocene, Italy. *TETRASTOMELLA* (type)

*SUBVITULINUS d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 73; Miocene, France [for *vitulinus* Grateloup, 1847, pl. 31, figs. 17, 18, *non* Lamarck; ? = *linguabovis* Basterot]. *VITULARIA*

SUCCINCTUS Linné, 1771, Mantissa Plantarum, v. 2, p. 551; Indo-Pacific [*Triton clandestinum* Lamarck, 1816, is ? the same species]. *GELAGNA* (type, as *T. clandestinum* Lamarck)

succinctus Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 121; Indo-Pacific.

succinctus Risso, 1826, Hist. Nat. Europe, v. 4, p. 197, pl. 9, fig. 121. CYMATIIDAE

SULCATUS Born, 1778, Index Mus. Caes. Vind., p. 324, ref. to Chemnitz, v. 4, figs. 1484, 1485; Indo-Pacific. *TEREBRALIA*

sulcatus Gmelin, 1791, Syst. Nat., ed. 13, p. 3549, ref. to Adanson, pl. 9, fig. 29; West Africa. *CANTHARUS*

**sulcatus* Anton, 1839, Verz. Conch., p. 81; Eocene, France. ? *TROPHON*

**sulcifer* Michelotti, 1846, N. Jahrb. Min. (1846), p. 55; Miocene, Italy [nude name; all other names on same list were described elsewhere by Michelotti but this one was not located]

SUPERBUS G. B. Sowerby III, 1889, Proc. Zool. Soc. London, (1888), p. 565, pl. 28, figs. 10, 11; Japan. *SIRATUS* (type—*Chicomurex* Arakawa)

*SUPERNUS Palmer, 1947, Bull. Amer. Paleont., v. 30, No. 117, p. 341, pl. 44 figs. 1-5, as *engonatus* var.; Eocene, Louisiana & Mississippi. *HEXAPLEX*

*SUSPENSUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 32, pl. 5, fig. 70; Eocene, England. *VOLUTOSPINA*

*SUTILIS White, 1887, Arch. Mus. Nacl. Rio de Janeiro, v. 7, p. 137, pl. 11, fig. 11; Miocene, Brazil. *MUREX s.s.*

*SUTURA Brown, 1818, Trans. Roy. Soc. Edinburgh, v. 8, p. 455, pl. 10, fig. 6 [not fig. 7 as cited]; ? Pliocene, France. TURRIDAE

*SWAINSONII Michelotti, 1841, Monografia *Murex,* p. 9; D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, pl. 3, fig. 5; Pliocene, Italy. *PTERYNOTUS*

SWANSONI [*Pterynotus*] Hertlein & Strong, 1951, Zoologica, v. 36, No. 5, Mollusks, pt. 10, p. 85, pl. 2, figs. 8, 12; East Pacific [? = *centrifuga* Hinds]. *PTEROPURPURA*

SYKESI Preston, 1904, Jour. of Malac., v. 11, p. 76, pl. 6, figs. 7, 8; Indian Ocean. *FAVARTIA*

*SYLVIA Anton, 1839, Verz. Conch., p. 80; Eocene, France. ? FUSINIDAE

*SYNGENES [*Chicoreus*] Finlay, 1930, Trans. New Zealand Inst., v. 61, p. 76, pl. 1, figs. 3, 4; Miocene, New Zealand. *CHICOREUS*

*SYPHONELLUS Bonelli *in* Beliardi & Michelotti, 1841, Mem. R. Accad. Sci. Torino, (ser. 2) v. 3, p. 129, pl. 3, figs. 3, 4 [as separate; Saggio Orittografico Terr. Terz. Piemonte, ? 1840, p. 37]; Pliocene, Italy [? = *tetrapterus* Bronn, ? = *Typhis sowerbii* Broderip]. *TYPHINELLUS*

*SYPHONOSTOMUS Bonelli *in* Michelotti, 1841, Monografia *Murex,* p. 17, pl. 1, figs. 10, 11; Pliocene, Italy [? = *absonus* Cristofori & Jan]. *MUREXIELLA*

SYRACUSANUS Linné, 1758, Syst. Nat., ed. 10, p. 755; Mediterranean. *APTYXIS* (type)

*SYRTICUS Mayer, 1871, Jour. de Conchyl., v. 19, p. 348, pl. 10, fig. 4; Miocene, France. *HEXAPLEX*

T

TAENIATUS G. B. Sowerby II, 1860, Proc. Zool. Soc. London, pt. 27, p. 428, pl. 49, fig. 3; ? Gulf of California [?? = *macgintyi* Smith]. *MUREXIELLA*

*TALAHABENSIS Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n. s.) v. 1, pt. 4, p. 131, pl. 20, fig. 300; Miocene, Java. *HOMALOCANTHA*

TALIENWHANENSIS Crosse, 1862, Jour. de Conchyl., v. 10, p. 56, pl. 1, fig. 9; Japan [? = *japonicus* Dunker]. *OCENEBRA*

TAMPAENSIS Conrad, 1846, Proc. Acad. Nat. Sci. Phila., v. 3, p. 25; 1869, Amer. Jour. Conch., v. 5, pl. 12, fig. 5 [as *Ranella (Eupleura)*]; West Atlantic. ? *UROSALPINX*

*TAPPARONII Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 93, pl. 7, fig. 3; Pliocene, Italy [for *trunculus* Michelotti, 1841, and others, *non* Linné]. *HEXAPLEX*

TARENTINUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 173; Kiener, 1842, Coq. Viv., v. 7, pl. 44, fig. 2; Mediterranean [? = *erinaceus* Linné]. *OCENEBRA*

*TARNOPOLENSIS Friedberg, 1912, Mieczaki Miocen. *in* Muz. Dzieduszyckich, v. 14, No. 2, p. 170, pl. 11, fig. 2; Miocene, Poland. ? *ORANIA*

TATEI Verco, 1895, Trans. Roy. Soc. So. Aust., v. 19, p. 84, pl. 2, fig. 2; Australia. *MUREXIELLA*

*TATEIWAI [*Chicoreus*] Kuroda & Kotaka, 1952, Short Papers Inst. Geol. Paleont., Tohoku Univ., No. 4, p. 78, pl. 7, figs. 13, 14; Miocene, Korea. *CHICOREUS*

*TAURELONGATA Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 23, as [*Fusus*] *caelatus* Grâteloup var. (for Bellardi, 1872, pl. 7, fig. 17); Miocene, Italy. *OCINEBRINA*

*TAURINENSIS Michelotti, 1841, Monografia _Murex,_ p. 15, pl. 4, figs. 8, 9; Miocene, Italy. ? _BOLINUS_

*_tauropliocenica_ Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 21; Pliocene, Italy [in synonymy of _cristatus_ Brocchi var. _blainvillei,_ said by Sacco to have been named in 1890, Cat. Paleont. Bacino Terz. Piemonte, but apparently never published[7]]. _MURICOPSIS_

TAXUS Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 713, ref. to Chemnitz, v. 10, figs. 1550, 1551, as _clavatulus_ var. ?; West Africa. TURRIDAE

*TCHIHATCHEFFI d'Archiac & Haime, 1853, Desc. Anim. Foss. Numm. Inde, p. 311, pl. 29, fig. 23; Eocene, India.

TECTUMSINENSE Deshayes, 1856, Jour. de Conchyl., v. 5, p. 78, pl. 3, figs. 1, 2; Mediterranean. _LATIAXIS_

*TEMALENTUS Hanna, 1924, Proc. Calif. Acad. Sci., (ser. 4) v. 3, No. 10, p. 172; Pliocene, California [n.n. pro _concinna_ Nomland _non_ Reeve]. _OCENEBRA_

*TENELLUS Mayer, 1869, Jour. de Conchyl., v. 17, p. 82, pl. 3, fig. 5; Miocene, France. _DERMOMUREX_ (type - _Hexachorda_ Cossmann)

TENTACULA [_Aranea_] Perry, 1811, Conchology, pl. 45, fig. 4. _MUREX s.s._

tentaculata "Perry" Sherborn, 1922, Index Anim., 1801-1850, p. 6414 [err. pro _tentacula_ Perry]

*TENUICORNIS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 100, pl. 2, fig. 6; Eocene, Australia. _PTEROCHELUS_

TENUIROSTRUM Lamarck, 1822, Anim. s. Vert., v. 7, p. 159; ? Indo-Pacific [?? = _longicaudus_ Baker]. ? _HAUSTELLUM_

TENUIS [_Hexaplex_] Perry, 1811, Conchology, pl. 8, fig. 1; Indo-Pacific [?? = pathologic _scorpio_ Linné]. _HOMALOCANTHA_

TENUIS G. B. Sowerby II, 1879, Thes. Conch., v. 4, _Murex,_ p. 38, fig. 174; West Africa [?? = _trunculus_ Linné]. _HEXAPLEX_

tenuispina Lamarck, 1822, Anim. s. Vert., v. 7, p. 158; Indo-Pacific [= _pecten_ Montfort, both for Argenville, pl. 16, fig. A; ? = _pecten_ Lightfoot]. _MUREX s.s._ (type - _Acupurpura_ Jousseaume)

*TENUISPIRA von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, p. 44, pl. 4, figs. 5, 6; Oligocene, Germany. _PTERYNOTUS_

TENUIVARICOSUS Dautzenberg, 1927, Résult. Camp. Sci. Albert, Monaco, fasc. 72, p. 94; Brazil [n.n. pro _calcar_ Kiener _non_ Scacchi, see also _carioca_ Vokes]. _SIRATUS_

*TEPIKIENSIS [_Murexsul_] Powell, 1934, Rec. Auckland Inst. Mus., v. 1, p. 272, pl. 59, figs. 14, 15; Pleistocene, New Zealand. ? _CORALLIOPHILA_

TEREBELLA Gmelin, 1791, Syst. Nat., ed. 13, p. 3562, ref. to Chemnitz, v. 4, figs. 1458-1460; West Africa. _TYMPANATONOS_

*TERIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 264, as _trunculus_ var. (for D'Ancona, pl. 6, fig. 7); Pliocene, Italy [? = _rudis_ Borson; see also _loescheri_ de Gregorio]. _HEXAPLEX_

TERNATANUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3554, ref. to Chemnitz, v. 4, figs. 1304, 1305; Indo-Pacific. _SEMIFUSUS_

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[7] While this paper was in page proof the reference for Sacco's work was finally located. It appeared in 1890, Boll. Soc. Geol. Ital., v. 9, pp. 185-340. The names cited therein, although in a species list only, are not nude, as they might appear at first glance. Each refers to a well-described Bellardi variety from 1872, and consequently the following species should date from this paper and not 1904 as stated herein. Described as _Murex_: p. 239 - _aspinata, subspinosa, varicosissima, plioelata;_ p. 240 - _pliovaricosa, plioaspirata, brevispirata, exgranulosa, parvoligustica;_ p. 241 - _miomutica, dertobrevis, tauropliocenica, pliorecurva, plionodosa, plicatula, septemvaricosa._ The following were described in the genus _Ocinebra,_ not _Murex,_ as shown here: p. 242 - _pliopervaricosa, pliosubobtusa, plioscalarata, pliocarinata, mioincrassata;_ p. 243 - _pliosubasuturata, pliocostulata, subacingulata, tauroelongata_ [spelling changed to _taurelongata_ in 1904], _spiralata, pseudocingulata, miopercarinata._

TERNISPINA Lamarck, 1822, Anim. s. Vert., v. 7, p. 158; Kiener, 1842, Coq. Viv., v. 7, pl. 8, fig. 1; pl. 9, fig. 1; Red Sea. _MUREX s.s._

TERNISPINOSA Coen, 1914, R. Com. Talass. Ital., v. 46, p. 25, pl. 3, fig. 10; Adriatic [? = _trifariospinosa_ Frauenfeld]. _BOLINUS_

TERRITUS Reeve, 1845, Conch. Icon., v. 3, _Murex,_ pl. 33, fig. 167; 1846, Proc. Zool. Soc. London, pt. 13, p. 108 [as _turritus_]; Australia. _CHICOREUS_

*_tertiarius_ Schlotheim, 1832, System. Verz. Petrefacten-Samml., p. 38; Oligocene, Germany [nude name]

*TESCHI Koperberg, 1930, Jaarb. Mjnio. Ned. Oost-Ind., p. 114, as _bantamensis_ var.; Mio-Pliocene, Timor [for _bantamensis_ Tesch, 1915, pl. 81, fig. 140, _non_ Martin]. _MUREX s.s._

*_tessellaris_ Tate _in_ Tate & Dennant, 1895, Trans. Roy. Soc. So. Aust., v. 19, p. 111; Eocene, Australia [nude name, specimens in Tate collection are _otwayensis_ Harris and _adelaidensis_ Tate, _fide_ Ludbrock]. _PTEROCHELUS_

*TESSULATUS Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 308, pl. 1, fig. 7; Pliocene, Italy [? = _heptagonus_ Brocchi]. _CYMATIUM_

*TETHYS Nomland, 1917, Univ. Calif. Publ., Bull. Geol., v. 10, No. 14, p. 236, pl. 12, fig. 2; Pliocene, California. _OCENEBRA_

TETRAGONA [_Truncularia_] Stalio _in_ Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 167, pl. 6, fig. 57, as _trunculus_ var.; Adriatic. _HEXAPLEX_

TETRAGONUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 174; G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 61, fig. 25; pl. 63, fig. 36; Indo-Pacific. _FAVARTIA_

*TETRAPTERUS Bronn, 1838, Lethaea Geogn., v. 2, No. 9, p. 1077, pl. 61, fig. 13; Pliocene, Italy [? = _Typhis sowerbii_ Broderip]. _TYPHINELLUS_

*TEXANUS [_Hexaplex_] E. H. Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, p. 94, pl. 1, fig. 1; Eocene, Texas [for _vanuxemi_ Palmer, 1937, pl. 35, figs. 2, 5, _non_ Conrad]. _HEXAPLEX_

texaplex Salisbury, 1953, Zool. Rec., v. 87 (1950), Moll. p. 68 [err. pro _Hexaplex_ Perry, as _"H. texaplex B. stainforthi"_ = _Hexaplex (Bassiella) stainforthi_]

*TEXTILE Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 423, pl. 8, fig. 14; Pliocene, Italy. _RIMOSODAPHNELLA_ (type)

*TEXTILIOSUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 225; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 82, figs. 17-19 [as _Fusus textiliosus_ Deshayes]; Eocene, France, _HEXAPLEX_

*TEXTILIS Gabb, 1873, Trans. Amer. Phil. Soc., (n.s.) v. 15, p. 202; Pilsbry, 1922, Proc. Acad. Nat. Sci. Phila., v. 73, pl. 28, fig. 4 (holotype); Miocene, Dominican Republic. [This name is not preoccupied by _textile_ Brocchi as that word is a noun, = a piece of fabric, and _textilis_ is an adjective = woven.] _SUBPTERYNOTUS_ (type)

*THALMANNI [_Hexaplex_] E. H. Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, p. 106, pl. 3, fig. 2; Miocene, Mexico. _MUREXSUL_

*THIARA Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 424, pl. 8, fig. 6; Miocene, Italy. _CRENISUTURA_ (type)

THOMASI Crosse & Fischer, 1872, Jour. de Conchyl., v. 20, p. 212; 1873, _ibid.,_ v. 21, pl. 11, fig. 4; Indo-Pacific. _CHICOREUS_

THOMPSONI Bullis, 1964, Tulane Stud. Zoology, v. 11, No. 4, p. 103, figs. 3, 4; West Atlantic. _SIRATUS_

*TIGANOURANA Nomura, 1935, Saito Ho-on Kai Mus. Sendai, Res. Bull. 6, p. 225, pl. 17, fig. 18; Miocene, Japan. ? _OCENEBRA_

*TIMORENSIS Tesch, 1915, Paläont. Timor, v. 5, No. 9, p. 64, pl. 82 (10), fig. 141; Mio-Pliocene, Timor. _CHICOREUS_

*TINGARUS de Gregorio, 1890, Ann. Géol. Paléont., livr. 7, p. 96, pl. 7, fig. 36; ? Oligocene, Mississippi [? = _stetopus_ de Gregorio]. _PHYLLONOTUS_

*TIRICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 231, as _brandaris_ var. (for D'Ancona, 1871, pl. 2, fig. 7); Pliocene, Italy. _BOLINUS_

TIRITUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 285, as [*Buccinum*] *d'orbignyi* Payraudeau var.; Mediterranean. *ENGINA*

TIRONDUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 252; Mediterranean [?? = *corrugatus* G. B. Sowerby II]. *CHICOREUS*

TOKUBEII [*Murexsul*] Nakamigawa & Habe, 1964, Venus, v. 23, p. 26 [Japanese], 28 [English], pl. 2, fig. 4; Japan [for *balteatus* Habe, 1961, pl. 25, fig. 6, *non* G. B. Sowerby II]. ? *MUREXIELLA*

*TOREIA Maury, 1925, Serv. Geol. Min. Brasil Mon. 4, pp. 144-145, pl. 6, fig. 11; Miocene, Brazil. *SIRATUS*

TORNATUS Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 715, ref. to Chemnitz, v. 4, figs. 1336-1338; Indo-Pacific. *TURRICULA* (type, as *flammea* Schumacher)

TOROSUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 441, fig. 5; 1822, Anim. s. Vert., v. 7, p. 175; Mediterranean [? = *erinaceus* Linné]. *OCENEBRA*

*TORREARSAE de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 275; Pliocene, Italy. *PTERYNOTUS*

TORREFACTUS G. B. Sowerby II, 1841, Conch. Illus., *Murex*, pl. 199, fig. 120; 1841, Proc. Zool. Soc. London, pt. 8, p. 141; Indo-Pacific. *CHICOREUS*

*TORRILOSIFORMIS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 146; ? Oligocene, Germany.

TORTA Dautzenberg, 1904, Jour. de Conchyl., v. 52, p. 287, pl. 8, fig. 4, as *brandaris* var.; Mediterranean [= pathologic *brandaris* Linné]. *BOLINUS*

*TORTUOSUS Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 306, pl. 1, fig. 4; Miocene, Italy. *DISTORSIO*

**tortuosus* J. de C. Sowerby, 1823, Mineral Conch., v. 5, p. 48, pl. 434, fig. 2; Pliocene, England [see *binominatus* Staadt, n.n.] TROPHONINAE

tortuosus "Broderip" G. B. Sowerby II, 1841, Conch. Illus., *Murex* Catalogue, p. 8 [err. pro *tortuus* Broderip]

TORTUUS Broderip *in* G. B. Sowerby II, 1834, Conch. Illus., *Murex*, pl. 59, fig. 8; East Pacific [n.n. pro *crispus* Broderip *non* Lamarck]. *HEXAPLEX*

*TORULARIUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 576; Favre, 1918, Cat. Illus. Coll. Lamarck, Mus. Hist. Nat. Genève, Part I, Fossiles, Mollusques Trachélipodes, pl. 13, fig. 205 (holotype); Pliocene, Italy. *BOLINUS*

TORULOSA Linné, 1767, Syst. Nat., ed. 12, p. 1226; Indo-Pacific. *TIARA-CERITHIUM*

**torulosus* "Michelotti" Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 68 [err. pro *porulosus* Michelotti]

*TOTOMIENSIS Makiyama, 1927, Mem. Coll. Sci. Kyoto Univ., ser. B, v. 3, p. 126, pl. 6, figs. 20, 21; Pliocene, Japan. *CHICOREUS*

TOUPIOLLEI Bernardi, 1860, Jour. de Conchyl., v. 8, p. 211, pl. 4, fig. 5; West Atlantic [? = *brevifrons* Lamarck]. *CHICOREUS*

*TRANSITORIA Fontannes, 1879, Moll. Pliocènes Rhone et Roussillon, v. 1, p. 12, pl. 2, fig. 7, as *scalaris* Brocchi var.; Pliocene, France. *OCINEBRINA*

*TRANSSYLVANICUS Hoernes & Auinger, 1885, Die Gastropoden Miocänen Mediterraneanstufe, p. 207, pl. 24, fig. 12; Miocene, Hungary [also spelled *transylvanicus*]. *DERMOMUREX*

*TRANSVERSALIS de Serres, 1829, Geogn. Terr. Tert. Midi-France, p. 116, pl. 2, figs. 11, 12; Pliocene, France [? = *bicaudatus* Borson]. *OCINEBRINA*

TRAPA Röding, 1798, Museum Boltenianum, p. 145, ref. to Martini, v. 3, figs. 1055, 1056; Indo-Pacific. *MUREX s.s.*

*TRAPEZIIFORMIS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 137; Eocene, Italy. BUCCINIDAE

TRAPEZIUM Linné, 1758, Syst. Nat., ed. 10, p. 755; Indo-Pacific. *PLEURO-PLOCA* (type)

trapezium Perry, 1811, Conchology, pl. 1, fig. 3; Indo-Pacific [? = *Fasciolaria filamentosa* Röding]. *PLEUROPLOCA*

TREMPERI Hemphill *in* Dall, 1910, Nautilus, v. 24, p. 96, as *carpenteri* var.; Hemphill, 1911, Trans. San Diego Soc. Nat. Hist., v. 1, pl. 1, fig. 1; California. *PTEROPURPURA*

*TRIACANTHUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3527, ref. to Walch, pl. C. I., fig. 5; ? Pliocene, Italy [? = *torularius* Lamarck]. *BOLINUS*

TRIALATUS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 62, fig. 33; 1841, Proc. Zool. Soc. London, pt. 8, p. 143; California. *PTEROPURPURA*

**trialatus* von Koenen, 1889, Abh. Geol. Spec. Preuss. Thüring. Staat., v. 10, p. 45, pl. 2, figs. 1-3; Oligocene, Germany. *PTERYNOTUS*

*TRIANGULARIS Brown, 1818, Trans. Roy. Soc. Edinburgh, v. 8, p. 462, pl. 9, fig. 18; ? Pleistocene, France. ? *PYRAZUS*

triangularis Risso, 1826, Hist. Nat. Europe, v. 4, p. 196; Mediterranean.

**triangularis* Jung, 1965, Bull. Amer. Paleont., v. 49, No. 223, p. 522, pl. 69, fig. 9; pl. 70, figs. 1, 2; Miocene, Venezuela [see *denegatus* Jung, n.n.]. *SIRATUS*

TRIBULUS Linné, 1758, Syst. Nat., ed. 10, p. 746; Indo-Pacific. *MUREX s.s.* (type, as *pecten* Montfort, in part)

tribulus [*Purpura*] Röding, 1798, Museum Boltenianum, p. 140 [nude name]

**tricanthus* "Gmelin" Sherborn, 1902, Index Anim., 1758-1800, p. 987 [err. pro *triacanthus* Gmelin]

**tricarinatus* Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 223; Eocene, France [= *crenulata* Röding, both for Brander, pl. 3, figs. 77, 78]. *PTERYNOTUS*

*TRICARINOIDES Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 598, pl. 82, figs. 11, 12; Eocene, France [? = *crenulata* Röding, *tricarinatus* Lamarck]. *PTERYNOTUS*

*TRICINCTUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 446, pl. 9, fig. 23; ? Miocene, Italy. CERITHIACEA

TRICOLOR Valenciennes, 1832, Coq. Univalves l'Amér. Equinoxiale, p. 300; East Pacific [? = *regius* Swainson]. *PHYLLONOTUS*

TRICORONIS Berry, 1960, Leaflets in Malac., v. 1, No. 19, p. 119; Gulf of California. *MUREX s.s.*

TRICOSTATUS Fischer de Waldheim, 1807, Mus. Demidoff, v. 3, p. 199.

**tricostatus* Steuer, 1912, Abh. Geol. Land. Darmstadt, v. 6, p. 28, pl. 1, figs. 1-3; Oligocene, Germany. ? *ODONTOPOLYS*

*TRICUSPIDATUS Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, p. 600, pl. 81, figs. 22, 23; Eocene, France [? = *crenulata* Röding, *tricarinatus* Lamarck]. *PTERYNOTUS*

*TRIDENTATUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 108, pl. 2, fig. 2; Eocene, Australia. ? *HEXAPLEX*

TRIFARIASPINOSA [*Rhinacantha*] Frauenfeld, 1869, Verh. Zool-Bot. Gesell. Wien, (1869), p. 888, ref. to Chemnitz, v. 10, fig. 1571; Mediterranean [? = *brandaris* Linné]. *BOLINUS*

*TRIFASCIALIS Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 2 [pl. 30], fig. 20; Miocene, France. ? *PTERYNOTUS*

TRIFORMIS Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 13, fig. 53; Australia. *PTEROCHELUS*

*TRIFRONS Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 33, p. 95; 1847, Conchyl. Adour, Atlas, Ranelles, pl. 3 [pl. 31], fig. 9; Miocene, France, *CHICOREUS*

*TRIGONALIS Gabor, 1936, Ann. Hist. Nat. Mus. Natl. Hung., v. 30, p. 4, pl. 1, fig. 7; Oligocene, Hungary. *CHICOREUS*

trigonalis "Lamarck" Habe, 1964, Shells Western Pacific, v. 2, p. 80 [err. pro *trigonulus* Lamarck, = *triqueter* Born]

**trigonius* "Gmelin" Sherborn, 1902, Index Anim., 1758-1800, p. 993 [err. pro *trigonus* Gmelin]

TRIGONULARIS Lamarck, 1822, Anim. s. Vert., v. 7, p. 165, queried ref. to

Martini, v. 3, figs. 1031, 1032; ? West Africa [? = worn *gambiensis* Reeve]. *PURPURELLUS*

TRIGONULUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 417, fig. 4; Indo-Pacific [? = *triqueter* Born]. *NAQUETIA*

trigonulus Lamarck, 1822, Anim. s. Vert., v. 7, p. 167; ? Indian Ocean [? = *annandalei* Preston; see Vokes, 1968, Jour. of Conch., v. 26, pp. 300-304, for a discussion of the identity of this species]. *NAQUETIA*

TRIGONUS Gmelin, 1791, Syst. Nat., ed., 13, p. 3549, ref. to Adanson, pl. 8, fig. 14; West Africa. *CYMATIUM*

**trigonus* Rouault, 1850, Mém Soc. Géol. France, (ser. 2) v. 3, p. 493, pl. 17, fig. 17; Eocene, France. *PTERYNOTUS*

*TRILINEATUS J. Sowerby, 1813, Mineral Conch., v. 1, p. 80, pl. 35, figs. 4, 5; Eocene, England. *MITRA*

trilineatus Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 25, fig. 103; West Atlantic [see *reevei* Vokes, n.n.]. *SIRATUS*

**trinacrius* Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name]

*TRINCHINOPOLITENSIS Forbes, 1846, Trans. Geol. Soc. London, v. 7, p. 127, pl. 15, fig. 7; Cretaceous, India. ? CYMATIIDAE

*TRINODOSUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 58, pl. 4, fig. 10; pl. 15, fig. 11; Miocene, Italy [for *tricarinoides* Michelotti, 1841, *non* Deshayes]. *PTERYNOTUS*

**trinodosus* Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 96, pl. 1, fig. 4; Pliocene, Australia [see *extrinodosus* Sacco, n.n.]. *PTEROCHELUS*

*TRIPLICATUS Brown, 1818, Trans. Roy. Soc. Edinburgh, v. 8, p. 462, pl. 9, fig. 19; ? Pleistocene, France. ? *GLABELLA*

*TRIPTEROIDES Lamarck, 1822, Anim s. Vert., v. 7, p. 177; Deshayes, 1835, Coq. Foss. Environs Paris, v. 2, pl. 82, figs. 1, 2; Eocene, France [for *tripterus* Lamarck, 1803, *non* Born]. *PTERYNOTUS*

TRIPTERUS Born, 1778, Index Mus. Caes. Vind., p. 287, ref. to Martini, v. 3, fig. 1033; 1780, Test. Mus. Caes. Vind., pl. 10, figs. 18, 19; Indo-Pacific. *PTERYNOTUS*

TRIQUETER Born, 1778, Index Mus. Caes. Vind., p. 288, ref. to Martini, v. 3, fig. 1038; 1780, Test. Mus. Caes. Vind., pl. 11, figs. 1, 2; Indo-Pacific. *NAQUETIA* (type)

TRIQUETRA Risso, 1826, Hist. Nat. Europe, v. 4, p. 195; ? Coen, 1933, R. Com. Talass. Ital. Mem. 192, pl. 7, fig. 62; Mediterranean [? = *erinaceus* Linné]. *OCENEBRA*

*TRIQUETRUS Giebel, 1861, Zeit. Gesammten Naturw. Jahrg., v. 17, p. 38; Oligocene, Germany [? = *tristichus* Beyrich]. TROPHONINAE

TRIREMIS [*Aranea*] Perry, 1811, Conchology, pl. 45, fig. 3; Indo-Pacific [? =*pecten* Lightfoot]. *MUREX s.s.*

TRISPINOSA Bucquoy, Dautzenberg & Dollfus, 1882, Moll. Mar. Roussillon, v. 1, p. 18, as *brandaris* var. (for Blainville, 1829, pl. 4D, fig. 9); Mediterranean [? = *trifariaspinosa* Frauenfeld; ? = *brandaris* Linné]. *BOLINUS*

trispinosus Locard, 1886, Prodrome Malac. Française *in* Ann. Soc. Linn. Lyon, (n.s.) v. 32, p. 219 [p. 158 of separate]; Mediterranean [= *trispinosa* B., D. & D. both for Blainville, 1829, pl. 4D, fig. 9; also ? = *trifariaspinosa* Frauenfeld; ? = *brandaris* Linné]. *BOLINUS*

*TRISTICHUS Beyrich, 1854, Zeitsch. Deutsch. Geol. Gesell., v. 6, p. 746, pl. 13, fig. 1; Oligocene, Germany. TROPHONINAE

tristichus Dall, 1889, Bull. Harvard Mus. Comp. Zool., v. 18, p. 202, pl. 15, fig. 3; West Atlantic [see *havanensis* Vokes, n.n.]. *PTERYNOTUS*

*TRISUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 242, as *craticulatus* Brocchi var. (for D'Ancona, 1871, pl. 6, fig. 4); Pliocene, Italy. *HADRIANIA*

*TRITON d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 72; Oligocene-

Miocene, France [for *blainvillei* Grateloup, 1847, pl. 30, fig. 32, *non* Payraudeau]. ? *MURICOPSIS*

*TRITONEUM Grateloup, 1847, Conchyl. Adour, Atlas, Ranelles, pl. 1 [pl. 29], fig. 23; Miocene, France. *SASSIA*

TRITONIS Linné, 1758, Syst. Nat., ed. 10, p. 754; Indo-Pacific. *CHARONIA* (type)

*TRITONOPSIS Heilprin, 1887, Trans. Wagner Free Inst. Sci., v. 1, p. 107, pl. 15, fig. 39; Miocene, Florida. *PHYLLONOTUS*

TRIVIALIS A. Adams, 1854, Proc. Zool. Soc. London, pt. 21, p. 71; G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* fig. 80; Japan [this is the *"penchinati"* of Japanese authors]. *CHICOREUS*

*TROCHISPIRA Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 106, pl. 3, fig. 13; Miocene, Australia. *MUREXSUL*

TROPHONIFORMIS [*Muricidea*] Monterosato, 1884, Nomen. Conch. Medit., p. 110, as *blainvillei* var.; Mediterranean. [Although cited earlier by Weinkauf and Monterosato, the name is nude until this usage.] *MURICOPSIS*

*TROPHONIFORMIS Heilprin, 1887, Trans. Wagner Free Inst. Sci., v. 1, p. 107, pl. 15, fig. 40; Miocene, Florida. *PHYLLONOTUS*

TROSCHELI Lischke, 1868, Malak. Blätter, v. 15, p. 219; 1869, Japan. Meeres-Conch., v. 1, pl. 1, figs. 1, 2; Japan. *MUREX s.s.*

truncata [*Purpura*] Röding, 1798, Museum Boltenianum, p. 143; West Africa [= *decussatus* Gmelin, both for Chemnitz, v. 10, figs. 1540, 1541]. *JATON*

*TRUNCATULUS Foresti, 1868, Cat. Moll. Foss. Pliocenici Colline Bolognese, p. 13, pl. 1, figs. 1, 2; Pliocene, Italy. *HEXAPLEX*

TRUNCATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3547, ref. to Acta Nidros., v. 4, pl. 16, fig. 26. ? *TROPHON*

*TRUNCULOIDES Pusch, 1837, Polens Paläont., p. 136, pl. 11, fig. 23; Miocene, Poland. *HEXAPLEX*

**trunculoides* Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name, see *truncatulus* Foresti, n.n.]. *HEXAPLEX*

TRUNCULUS Linné, 1758, Syst. Nat., ed. 10, p. 747; Mediterranean. *HEXAPLEX* (type - *Trunculariopsis* Cossmann)

TRYONI Hidalgo *in* Tryon, 1880, Man. Conch., v. 2, p. 134, pl. 70, fig. 427; Vokes, 1967, Tulane Stud. Geol., v. 5, No. 2, pl. 4, fig. 2 (holotype); West Atlantic. *MUREX s.s.*

TUBA Gmelin, 1791, Syst. Nat., ed. 13, p. 3554, ref. to Chemnitz, v. 4, fig. 1333; Japan. *SEMIFUSUS*

TUBERCULARIS Montagu, 1803, Test. Brit., v. 1, p. 270; East Atlantic. *CERITHIOPSIS* (type)

TUBERCULATUS Röding, 1798, Museum Boltenianum, p. 144, ref. to Martini, v. 3, fig. 1058; Mediterranean [? = *brandaris* Linné]. *BOLINUS*

tuberosa [*Purpura*] Röding, 1798, Museum Boltenianum, p. 141; West Africa [= *melanamathos* Gmelin, both for Martini, v. 3, fig. 1015]. *HOMALOCANTHA*

tuberosus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 749; Indo-Pacific [unnecessary n.n. pro *Cerithium nodulosum* Bruguière *non Murex nodulosus* Gmelin]. *CERITHIUM*

**tuberosus* J. Sowerby, 1819, Mineral Conch., v. 3, p. 51, pl. 229, fig. 1, Eocene, England. *BUCCINOFUSUS*

**tuberosus* J. de C. Sowerby, 1827, Mineral Conch., v. 6, p. 152, pl. 578, fig. 4; Jurassic, England [? = *nodulatus* Young & Bird]. *PURPUROIDEA*

tuberosus Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 59; Adriatic [? = *ligniarius* Linné]. *TARANTINAEA*

TUBULA Schröter, 1805, Archiv Zool. (Wiedemann), v. 4, p. 125. ? *SEMIFUSUS*

tubulatus "Martyn" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 97; Indo-Pacific [= *rubiginosus* Reeve]. *CHICOREUS*

TUDICLOIDES Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 91, as *brandaris* var.; Mediterranean [= pathologic *brandaris* Linné]. *BOLINUS*

TULIPA Linné, 1758, Syst. Nat., ed. 10, p. 754; West Atlantic. *FASCIOLARIA* (type)

TUMIDA [*Trophon*] Pettard, 1884, Jour. of Conch., v. 4, p. 141; Australia. ? *MUREXSUL*

TUMULOSUS G. B. Sowerby II, 1841, Conch. Illus., *Murex,* pl. 189, fig. 71; 1841, Proc. Zool. Soc. London, pt. 8, p. 144; West Africa. *BOLINUS*

*TURANGLICUS Alekseev, 1963, Paleogene Moll. Fauna North Trans-Aral Region [transl.], Akad. Nauk Armenian S.S.R., p. 100, pl. 18, figs. 13-15; Eocene, U.S.S.R. *PTERYNOTUS*

*TURBIDUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 19, pl. 2, fig. 31; Eocene, England. *BATHYTOMA*

*TURBINATUS Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 443, pl. 10, fig. 1; Pliocene, Italy. CERITHIACEA

**turbinatus* [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 145; Devonian, Germany [? =*Turritella bilineata* Goldfuss]. *MURCHISONIA*

turbinatus Lamarck, 1822, Anim. s. Vert., v. 7, p. 170; Kiener, 1842, Coq. Viv., v. 7, pl. 22, fig. 1; West Africa [? = *kusterianus* Tapparone-Canefri]. *HEXAPLEX*

*TURBINELLATUS Millet, 1866, Paléont. Maine et Loire, p. 16; Miocene, France.

*TURBINELLOIDES [*Fusus*] Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 32, p. 42; 1847, Conchyl. Adour, Atlas, Turbinelles, pl. 3 [pl. 24], fig. 18 [as *Turbinella muricina*]; Oligocene, France. *PANAMUREX*

TURBINELLUS Linné, 1758, Syst. Nat., ed. 10, p. 750; Indo-Pacific. *VASUM*

*TURBINEUS Almera & Bofill, 1893, Bol. Com. Mapa Geol. España, v. 19, p. 110, pl. 8, figs. 71, 72 [not 67, 68 as cited]; Pliocene, Spain. *OCINEBRINA*

*TURBINIFORMIS Mayer, 1874, Jour. de Conchyl., v. 22, p. 315, pl. 11, fig. 10; Pliocene, Italy. *LATIMUREX*

*TURGIDUS Solander *in* Brander, 1766, Foss. Hantoniensia, p. 26, pl. 4, fig. 51; Eocene, England. *STREPSIDURA*

*TURONENSIS Dujardin, 1837, Mém. Soc. Géol. France, v. 2, p. 295, pl. 19, fig. 27; Miocene, France. *HEXAPLEX*

TURRICULA Montagu 1803, Test. Brit., v. 1, p. 262, pl. 9, fig. 1; East Atlantic. *PROPEBELA* (type)

**turricula* Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 435, pl. 9, fig. 20; Pliocene, Italy. *GEMMULA*

TURRIS Gmelin, 1791, Syst. Nat., ed. 13, p. 3543, ref. to Bonanni, Recr., pl. 3, fig. 79; Indo-Pacific [? = *javanus* Linné]. *SURCULA*

TURRITA [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 336; McLean & Emerson, 1970, Veliger, v. 13, plate [no No.] fig. 1 (lectotype); Gulf of California. *CALOTROPHON* (type, as *bristolae* Hertlein & Strong)

*TURRITANA Segre, 1954, Boll. Serv. Geol. Ital., v. 76, p. 65, pl. 2, fig. 4, as *trunculus* var.; Pleistocene, Italy. *HEXAPLEX*

*TURRITELLATUS [*Muricites*] Schlotheim, 1820, Die Petrefactenkunde, p. 149; Eocene, Italy. CERITHIACEA

*TURRITUS Borson, 1821, Mem. R. Accad. Sci. Torino, v. 26, p. 310, pl. 1, [not pl. 2 as stated], fig. 9; Pliocene, Italy. *ENGINA*

turritus Reeve, 1846, Proc. Zool. Soc. London, pt. 13, p. 108 [err pro *territus* Reeve]

TWEEDIANUS Macpherson, 1962, Mem. Natl. Mus., Melbourne, No. 25, p. 176; Australia [n.n. pro *espinosus* Macpherson *non* Hutton]. *HAUSTELLUM*

*TYPHIOIDES Mayer, 1869, Jour. de Conchyl., v. 17, p. 83, pl. 3, fig. 6; Miocene, France [spelled *tiphyoides* on plate]. *PAZINOTUS*

*TYPHOPSIS de Gregorio, 1895, Ann. Géol. Paléont., livr. 20, p. 10, pl. 1, fig. 15; Eocene, Italy. ? *TYPHIS*

U

UMBILICATA [*Muricopsis*] Coen, 1930, Atti Soc. Ital. Sci. Nat., v. 69, p. 37, figs. 1, 2, as *blainvillei* var.; Adriatic. *MURICOPSIS*

*UMBILICATUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 100, pl. 7, fig. 7; Miocene, Italy. *ERGALATAX*

UMBILICATUS [*Trophon*] Tenison-Woods, 1876, Proc. Roy. Soc. Tasmania, (1875), p. 135; Verco, 1896, Trans. Roy. Soc. So. Aust., v. 20, pl. 7, fig. 4; Tasmania. *MUREXSUL*

*UMBRA Foresti, 1888, Boll. Soc. Geol. Ital., v. 7, p. 31, pl. 1 figs. 3, 4, as *torularius* var.; Pliocene, Italy. *BOLINUS*

*UMBRIFER Conrad, 1832, Fossil Shells Tert. Form. No. Amer., v. 1, No. 1, p. 17, pl. 3, fig. 1; 1868, Amer. Jour. Conch., v. 4, pl. 15, fig. 7; Miocene, Virginia. *PTERORYTIS* (type)

UNCINARIUS Lamarck, 1822, Anim. s. Vert., v. 7, p. 166 [queried ref. to Martini, v. 3, figs. 1034, 1035, incorrect]; Kiener, 1842, Coq. Viv., v. 7, pl. 6, fig. 2; South Africa. *POROPTERON* (type)

uncinata [*Purpura*] Röding, 1798, Museum Boltenianum, p. 142 [nude name]

UNCINATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3542, ref. to Schroeter, pl. 8, fig. 15; ? West Atlantic. CERITHIACEA

UNDATA [*Aspella*] Hedley, 1907, Rec. Australian Mus., v. 6, p. 294, pl. 55, fig. 15; Tasman Sea. *BRACHYCYTHARA*

UNDATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3556, ref. to Chemnitz, v. 4, fig. 1343; Indo-Pacific. *FUSINUS*

undatus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 732, ref. to Chemnitz, v. 11, figs. 1851, 1852; Indo-Pacific [*Purpura undata* Lamarck, 1822, and *Murex undatus* Kobelt, 1869, are the same species]. *CRONIA*

UNDULATUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3559, ref. to Kaemmerer, pl. 10, fig. 1; Red Sea. *FUSINUS*

UNGULATUS Chiereghini *in* Nardo, 1847, Sinon. Spec. Lagune Veneto, p. 55; Adriatic [? = *erinaceus* Linné]. *OCENEBRA*

UNICORNIS Reeve, 1849, Conch. Icon., v. 3, *Murex,* Suppl. pl. 1, fig. 194; East Pacific. *CERATOSTOMA*

UNIDENTATUS G. B. Sowerby II, 1834, Conch. Illus., *Murex*, pl. 66, fig. 52; Indo-Pacific. *MUREX s.s.*

UNIFASCIATUS Wood, 1828, Index Test., Suppl., p. 15, pl. 5, fig. 11; ? Indo-Pacific. ? *LATIRUS*

UNIFASCIATUS [*Phyllonotus*] A. Adams, 1863, Proc. Zool. Soc. London, (1862), p. 372; Japan [? = *aduncus* Sowerby]. *OCINEBRELLUS*

unilateralis "Lamarck" Blainville, 1827, Dict. Sci. Nat., v. 45, p. 528 [err. pro *secundus* Lamarck, the vernacular name of which was "Rocher unilatéral"]

V

*VAGINATUS Cristofori & Jan, 1832, Cat. Mus., Sect. II, Conch. Foss., p. 11; D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, pl. 3, fig. 8; Pliocene, Italy. *PAGODULA* (type, as *carinatus* Bivona)

*VALDINTORTUS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 108, pl. 13, fig. 1; Miocene, France. *PTERYNOTUS*

**valmandianus* Schlotheim, 1832, System. Verz. Petrefacten-Samml., p. 38, Eocene, France [nude name]

*VANDERVLERKI [*Muricopsis*] Martin, 1931, Wetenschap. Mededeelingen, No. 18, p. 30, pl. 4, fig. 15; Eocene, Java. ? CANCELLARIIDAE

*VANUXEMI Conrad, 1865, Amer. Jour. Conch., v. 1, p. 210, pl. 20, fig. 4 [as *vamuxemi, ibid.,* p. 16, list only]; Eocene, Alabama. *HEXAPLEX*

**variabilis* Hoeninghaus, 1831, N. Jahrb. f. Min., (1831), p. 147; Tertiary, Italy [nude name, = C. & J.]

*VARIABILIS Cristofori & Jan, 1832, Cat. Mus., Sect. II, Conch. Foss., p. 12; D'Ancona, 1871, Malac. Pliocen. Ital. *in* Mem. Carta Geol. Ital., v. 1, pl. 3, fig. 3 [as *squamulatus* Brocchi]; Pliocene, Italy [? = *squamulatus* Brocchi]. ? *PAGODULA*

VARIANS d'Orbigny, 1841, Voyage Amér. Mérid., v. 5, pt. 3, p. 452, pl. 62, figs. 4-7; Patagonia. *TROPHON*

VARICISNODOSA Danilo & Sandri *in* Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, as *trunculus* var.; Adriatic. *HEXAPLEX*

*VARICOCRISPUS Millet, 1866, Paléont. Maine et Loire, p. 17; Miocene, France.

**varicosissima* Sacco, 1904, Moll. Terr. Terz. Piemonte e Liguria, v. 30, p. 18, pl. 4, figs. 27, 28, as *sismondae* var.; Miocene, Italy [? = *borsoni* Michelotti]. *BOLINUS*

*VARICOSSISSIMUS Bonelli *in* Michelotti, 1841, Monografia *Murex,* p. 9, pl. 5, figs. 13, 14; Miocene, Italy. *PAGODULA*

varicosus Karsten, 1789, Museum Leskeanus, v. 1, p. 265 [a non-binomial work]

VARICOSUS Holton, 1802, Enum. Syst. Conch. Chemnitz., p. 63, ref. to Chemnitz, v. 10, fig. 1546; Peru. *PSEUDONEPTUNEA* (type)

**varicosus* Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 440, pl. 10, fig. 3; Pliocene, Italy. CERITHIACEA

varicosus G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 65, fig. 49; 1841, Proc. Zool. Soc. London, pt. 8, p. 145; ? Indo-Pacific [? = *digitatus* G. B. Sowerby II]. *HOMALOCANTHA*

variegata [*Purpura*] Röding, 1798, Museum Boltenianum, p. 143; Indo-Pacific [= *triqueter* Born, both for Martini, v. 3, fig. 1038; see also *cancellata* Röding]. *NAQUETIA*

variegata "Martini" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 96, ref. to Martini, v. 3, figs. 995, 996; Indo-Pacific [in synonymy of *microphyllus* Lamarck, but figures = *carneola* Röding, etc.]. *CHICOREUS*

variegatum "Martini" Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 98, ref. to Martini, v. 3, fig. 1068 [in synonymy of *bellus* Reeve, ? = *messorius* G. B. Sowerby II]. *MUREX s.s.*

VARIEGATUS Perry, 1811, Conchology, pl. 2, fig. 3; Indo-Pacific [*Fusus laticostatus* Deshayes, 1831, is the same species]. *FUSINUS*

VARIETAS Davies *in* Pennant, 1791, Indian Zool., ed. 2, p. 155, ref. to Lister, pl. 949, fig. 44; Indo-Pacific [*Ranella echinata* Link, 1807, and *M. spinosus* Dillwyn, 1817 (= *Biplex spinosa* Perry, 1811, & *Ranella spinosa* Lamarck, 1822) are the same species]. *BURSA*

VARIUS G. B. Sowerby II, 1834, Conch. Illus., *Murex,* pl. 67, fig. 57; 1841, Proc. Zool. Soc. London, pt. 8, p. 144; West Africa. *HEXAPLEX*

*VASSEURI Tournouër, 1879, Bull. Soc. Géol. France, (ser. 3) v. 7, p. 469, pl. 10, fig. 1; Oligocene, France. ? BUCCINIDAE

*VAUGHANI Maury, 1910, Bull. Amer. Paleont., v. 4, No. 21, p. 143, pl. 23, fig. 6; Miocene, Florida. *BOLINUS*

**vaughani* Dickerson, 1917, Proc. Calif. Acad. Sci., (ser. 4) v. 7, p. 174, pl. 30, fig. 3; Oligocene, Washington [see *calamitus* Hanna, n.n.]. *BOREOTROPHON*

*VEATCHI Maury, 1910, Bull. Amer. Paleont., v. 4, No. 21, p. 144, pl. 23, fig. 7; Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, pl. 3, fig. 3 (topotype); Miocene, Florida. *HEXAPLEX*

**veatchi* Palmer, 1937, Bull. Amer. Paleont., v. 7, No. 32, p. 266, pl. 36, figs. 7, 11, 12; Eocene, Louisiana & Texas [see *sabinola* Palmer, n.n.] *PTERYNOTUS*

VELERO [*Poirieria*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 47, text fig. 1; West Atlantic. *PANAMUREX*

*VELIFICUS Tate, 1888, Trans. Roy. Soc. So. Aust., v. 10, p. 95, pl. 1, fig. 8; Miocene, Australia. *PTERYNOTUS*

*VENEZUELANUS F. Hodson, 1931, Bull. Amer. Paleont., v. 16, No. 59, p. 37, pl. 18, fig. 1; pl. 19, figs. 1, 3; Miocene, Venezuela. *CHICOREUS*

VENTRICOSUS Molina, 1810, Sag. Storia Nat. Chile, ed. 2, p. 178; Chile. ? *TROPHON*

**ventricosus* Hörnes, 1853, Foss. Moll. Wien, v. 1, *in* Abh. K. K. Geol. Reichsanst., v. 3, p. 231, pl. 24, figs. 4, 5; Miocene, Austria [? = *capitoformis* Voorthuysen; see note after *borni* Hörnes]. *OCINEBRINA*

*VENTRICOSUS [*Hexaplex*] Hölzl, 1958, Geol. Bavarica, No. 38, p. 226, pl. 20, fig. 5, as *deshayesii* var.; Miocene, Germany. *FLEXOPTERON*

*VENUPILLUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 249, as [*Purpura*] *lassaignei* var.; Tertiary, Italy. *OCENEBRA*

*VENUSTUS Bellardi, 1872, Moll. Terr. Terz. Piemonte e Liguria, v. 1, p. 76, pl. 6, fig. 1; Miocene, Italy. *PTERYNOTUS*

*VENZOI Noszky, 1940, Ann. Hist. Nat. Mus. Natl. Hung., v. 33, p. 28, pl. 2, fig. 2, as *detritus* var.; Oligocene, Hungary. *PTERYNOTUS*

*VERACRUZANA [*Murexiella*] E. H. Vokes, 1968, Tulane Stud. Geol., v. 6, No. 3, p. 116, pl. 5, fig. 5; Miocene, Mexico. *MUREXIELLA*

*VERANYI Paulucci, 1866, Jour. de Conchyl., v. 14, p. 64, pl. 2, fig. 1 & pl. 3, fig. 1; Miocene, Italy. *PURPURELLUS*

*VERBEEKI Martin, 1895, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 1, pt. 5, p. 123, pl. 19, figs. 278-281; Mio-Pliocene, Java. *MUREX s.s.*

*VEREFUSOIDES Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 101, pl. 18, fig. 3, as *partschi* var.; Miocene, France. *BOLINUS*

VERRUCOSUS Gmelin, 1791, Syst. Nat., ed. 13, p. 3557, ref. to Chemnitz, v. 4, figs. 1349, 1356 [err. pro 1350]; Red Sea. *PLEUROPLOCA*

versicolor Gmelin, 1791, Syst. Nat., ed. 13, p. 3530, ref. to Knorr, pt. 5, pl. 4, fig. 1; Indo-Pacific. [Although this name has page priority over the second *versicolor* Gmelin, inasmuch as this species is certainly the same as *brunnea* Link & *adustus* Lamarck, in the interest of stability, as first revisor the writer here selects the second *versicolor* (p. 3556) as the species to bear the name. The public is just becoming accustomed to *brunnea* Link after years of *adustus* Lamark, and to change the name again would be the height of irresponsibility. In effect, this was done previously by Dillwyn (1817, p. 718) who accepted the second *versicolor* and rejected the first, stating: "Gmelin's other *M. versicolor* at p. 3530, is only a Variety of *M. ramosus*."] *CHICOREUS*

VERSICOLOR Gmelin, 1791, Syst. Nat., ed. 13, p. 3556, ref. to Chemnitz, v. 4, fig. 1348; Indo-Pacific. *FUSINUS*

*VERSICOSTATUS Buvignier, 1843, Mém. Soc. Philom. Verdun, v. 2, p. 247, pl. 6, fig. 11; Jurassic, France. CERITHIACEA

VERTAGUS Linné, 1767, Syst. Nat., ed. 12, p. 1225; Indo-Pacific. *CERITHIUM*

*VERTIGUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 230, as *brandaris* var. (for D'Ancona, 1871, pl. 2, fig. 2); Pliocene, Italy. *BOLINUS*

vespertilio Gmelin, 1791, Syst. Nat., ed. 13, p. 3553; Indo-Pacific [= *pugilinus* Born, both for Chemnitz, v. 4, figs. 1323, 1324]. *MELONGENA*

VESPERTILIO [*Ceratostoma*] Kuroda *in* Kira, 1955, Coloured Illus. Shells Japan, p. 48, pl. 24, fig. 10; Japan. *PTERYNOTUS*

vetula Gravenhorst, 1807, Vergl. Uebers. Zool. Syst., p. 32; East Atlantic [= *Thais grisea* and *T. metallica* Röding, all for Martini, v. 3, figs. 964, 965; ? = *Buccinum haemostoma* Linné]. *THAIS*

VEXILLUM Gmelin, 1791, Syst. Nat., ed. 13, p. 3558, ref. to Knorr, pt. 6, pl. 26, fig. 5; Indo-Pacific [? = *Voluta turrita* Gmelin]. *LATIRUS*

VIBEX Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 175; Reeve, 1845, Conch. Icon., v. 3, *Murex,* pl. 34, fig. 175; East Pacific. ? *CANTHARUS*

VIBICINUS Helbling, 1779, Abh. Privat. Gesell. Böhmen, v. 4, p. 117, pl. 2, fig. 23. TURRIDAE

*VICINUS Nyst, 1878, Ann. Mus. Roy. Hist. Nat. Belg., Sér. Paléont., v. 3, p. 6, pl. 1, fig. 3; Pliocene, Belgium [text dated 1881, plates dated 1878]. ? TROPHONINAE

*VINDOBONENSIS Hörnes, 1853, Foss. Moll. Wien, v. 1, _in_ Abh. K. K. Geol. Reichsanst., v. 3, p. 252, pl. 25, figs. 17, 20; Miocene, Austria [see note after _borni_ Hörnes]. _OCENEBRA_

*_vindobonensis_ Meznerics, 1950, Ann. Inst. Geol. Hung., v. 39, p. 46 [Hungarian], 112 [German], pl. 2, fig. 17, as _sedgwicki_ var.; Miocene, Hungary. _HEXAPLEX_

VIOLACEA Monterosato, 1878, Enum. e Sinon., p. 40 [nude name]; _in_ Bucquoy, Dautzenberg & Dollfus, 1882, Moll. Mar. Roussillon, v. 1, p. 21, as _blainvillei_ var.; Mediterranean [for _blainvillei_ Blainville, 1829, pl. 5B, figs. 6, 7, _non_ Payraudeau]. _MURICOPSIS_

*VIPERINUS Lamarck, 1803, Ann. Mus. Natl. Hist. Nat., v. 2, p. 226; Deshayes, 1835, Coq. Foss. Bassin Paris, v. 2, pl. 80, figs. 16-18; Eocene, France. _SASSIA_

virgatus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 732; ? Indo-Pacific [unnecessary n.n. pro _plicatus_ Gmelin _non_ Martini]. _THAIS_

VIRGINEUS [_Purpura_] Röding, 1798, Museum Boltenianum, p. 141, ref. to Martini, v. 3, figs. 1029, 1030; Red Sea. _CHICOREUS_

virgineus Dillwyn, 1817, Cat. Recent Shells, v. 2, p. 714, ref. to Chemnitz, v. 11, figs. 1835, 1836. ? TURRIDAE

*VIRGINIAE Maury, 1910, Bull. Amer. Paleont., v. 4, No. 21, p. 143, pl. 23, fig. 5; Miocene, Florida. _PTEROPURPURA_

VIRIDIS Bucquoy, Dautzenberg & Dollfus, 1882, Moll. Mar. Roussillon, v. 1, p. 23, as [_Purpura_] _edwardsi_ var.; Mediterranean [for _edwardsi_ Blainville, 1829, pl. 5B, fig. 5, ? _non_ Payraudeau]. _OCINEBRINA_

vitellus "Broderip" G. B. Sowerby II, 1879, Thes. Conch., v. 4, _Murex,_ p. 43, fig. 249 [err. pro _vittatus_ Broderip]

VITTATUS Broderip, 1833, Proc. Zool. Soc. London, pt. 2, p. 176; G. B. Sowerby II, 1834, Conch. Illus., _Murex,_ pl. 60, fig. 19; East Pacific. _MUREXIELLA_

VITULINUS Lamarck, 1816, Tabl. Encycl. Méth. (Vers), v. 3, pl. 419, figs. 1, 7; 1822, Anim. s. Vert., v. 7, p. 173; Indo-Pacific [? = _milearis_ Gmelin]. _VITULARIA_

*VOLUTANUS Risso, 1826, Hist. Nat. Europe, v. 4, p. 198, ref. to Brocchi, pl. 15, [no fig. no.]; ? Pliocene, France. ? _NEOATHLETA_

*VOLUTINUS [_Muricites_] Schlotheim, 1813, Taschenb. Min., (1813), p. 92, ref. to Bourget, pl. 34, fig. 223; Cretaceous, Switzerland. ? _DRILLUTA_

*VOLZI [_Ocenebra_] Martin, 1914, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 2, pt. 4, p. 146, pl. 4, figs. 99, 100; Eocene, Java. _HEXAPLEX_

*_vorticosus_ Doderlein, 1862, Cenni Geol. Terr. Mioc. Sup. Italia Centrale, p. 22; Miocene, Italy [nude name]

*VULCANICUS [_Muricites_] Schlotheim, 1820, Die Petrefactenkunde, p. 148; Eocene, ? Italy. CERITHIACEA

*VULPECULUS "Renieri" Brocchi, 1814, Conch. Foss. Subap., v. 2, p. 420, pl. 8, fig. 10; Miocene, Italy. _LEUFROYIA_

VULPINUS Born, 1778, Index Mus. Caes. Vind., p. 318; 1780, Test Mus. Caes. Vind., pl. 11, figs. 10, 11. ? _BUCCINUM_

W

*WADIAI Cox, 1930, Palaeont. Indica, (n.s.) v. 15, pt. 8, p. 189, pl. 20, fig. 3; Eocene, India. BUCCINIDAE

WAHLBERGI Krauss, 1848, Südafrik. Moll., p. 111, pl. 6, fig. 13; South Africa. _TROPHON_

*WAIAREKA [_Pteropurpura_] Beu, 1970, Trans. Roy. Soc. New Zealand (Biol.

Sci.), v. 12, p. 141, pl. 1, figs. 4, 6, as *lactifica* subsp.; Eocene, New Zealand. *PTERYNOTUS*

WAKASANUS Nomura & Niino, 1940, Rec. Ocean. Works Japan, v. 12, p. 71, pl. 1, fig. 10; Japan [? = *Trophon fimbriatulum* Adams]. *GENKAIMUREX*

*WALLACEI Pritchard, 1898, Proc. Roy. Soc. Victoria, (n.s.) v. 11, p. 104, pl. 7, fig. 3; Miocene, Australia. *PTERYNOTUS*

*WANNERI Martin, 1916, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 2, pt. 6, p. 240, pl. 2, figs. 37, 38; Miocene, Java. ? *HAUSTELLUM*

WEINKAUFFIANUS Crosse, 1866, Jour. de Conchyl., v. 14, p. 274, pl. 8, fig. 4; Adriatic. *OCINEBRINA*

*WEISBORDI Palmer, 1947, Bull. Amer. Paleont., v. 30, No. 117, p. 343, pl. 45, figs. 19-21; Eocene, Louisiana. *PTERYNOTUS*

*WENZELIDESI Hörnes, 1853, Foss. Moll. Wien, v. 1 *in* Abh. K. K. Geol. Reichsanst., v. 3, p. 264, pl. 26, fig. 12; Miocene, Austria [? = *Typhis tripterus* Grateloup]. *TRIPTEROTYPHIS*

*WERNERI Toula, 1911, Jahr. K. K. Geol. Reichsanst., v. 61, p. 479, pl. 29, fig. 9; Miocene, Mexico [? = *dominicensis* Gabb]. *PAZIELLA*

*WHITNEYI [*Tritonium*] Gabb, 1864, Paleontology [of California], v. 1, p. 96, pl. 28, fig. 210; Eocene, California. ? *HEXAPLEX*

*WILLIAMSI Maury, 1925, Serv. Geol. Min. Brasil Mon. 4, pp. 140-141, pl. 6, fig. 8; Miocene, Brazil. ? *SIRATUS*

**williamsi* Sokolov *in* Kliushnikov, 1958, Trudy. Inst. Geol.-Nauk; Akad. Nauk USSR, v. 13, p. 321, pl. 37, fig. 10; Eocene, Ukraine. *NAQUETIA*

WILSONI [*Haustellum*] D'Attilio & Old, 1971, Veliger, v. 13, p. 316, figs. 1, 2; Australia. *HAUSTELLUM*

*WOODI Depontaillier, 1884, Jour. de Conchyl., v. 32, p. 47; Pleistocene, England [for *corallinus* Wood, 1872, pl. 2, fig. 12, *non* Scacchi]. *OCINEBRINA*

WOODRINGI Clench & Pérez Farfante, 1945, Johnsonia, v. 1, No. 17, p. 9, pl. 4, figs. 1-3; West Atlantic [? = *messorius* G. B. Sowerby II]. *MUREX s.s.*

*WOODSENSIS [*Poirieria*] E. H. Vokes, 1970, Tulane Stud. Geol. Paleont., v. 8, No. 1, p. 17, pl. 4, figs. 1, 2; Eocene, Alabama [for *morulus* Harris, 1897, pl. 20, fig. 12, *non* Conrad]. *POIRIERIA*

Y

*YAQUENSIS Maury, 1917, Bull. Amer. Paleont., v. 5, No. 29, p. 266, pl. 16, fig. 7; Miocene, Dominican Republic [n.n. pro *antillarum* Gabb *non* Hinds]. *SIRATUS*

*YENANENSIS Vredenberg, 1921, Rec. Geol. Sur. India, v. 51, p. 274, as *iravadicus* var.; Miocene, Burma [for *tchihatcheffi* Noetling, 1901, pl. 21, fig. 8 (only), *non* d'Archiac & Haime]. ? *CANTHARUS*

*YOKOYAMAI Hatai & Nisiyama, 1952, Sci. Rept. Tohoku Univ., (ser. 2, Geol.), Spec. v. 3, p. 217; Pliocene, Japan [for *spinicosta* Yokoyama, 1926, pl. 38, figs. 25, 26 *non* Bronn]. *MUREX s.s.*

YOLDII Mörch, 1852, Cat. Conch. Yoldi, pt. 1, p. 95 [nude name]; *in* G. B. Sowerby II, 1879, Thes. Conch., v. 4, *Murex,* p. 36, fig. 210; ? Mediterranean [? = *trunculus* Linné]. *HEXAPLEX*

Z

ZAMBOI Burch & Burch, 1960, Hawaiian Shell News, v. 8, No. 5, p. 7, text fig., as *anatomica* var.; Indo-Pacific. *HOMALOCANTHA*

*ZEALANDICA [*Typhis*] Hutton, 1873, Cat. Tert. Moll. New Zealand, p. 2; Hector, 1886, Outline New Zealand Geol., fig. 7; Pleistocene, New Zealand. *PTEROCHELUS*

*ZEBUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 281, as *plicatus* Brocchi var. (for Hörnes, 1856, pl. 25, fig. 9); Miocene, Austria. *ENGINA*

ZELANDICUS Quoy & Gaimard, 1833, Voyage *Astrolabe,* Zool., v. 2, p. 529, pl. 36, figs. 5-7; New Zealand. *POIRIERIA* (type)

ZETEKI [*Muricopsis*] Hertlein & Strong, 1951, Zoologica, v. 36, No. 5, Mollusks, pt. 10, p. 85, pl. 2, fig. 9; East Pacific [n.n. pro *aculeatus* Wood *non* Perry, also *dubius* G. B. Sowerby II *non* Dillwyn]. *MURICOPSIS*

ZICUS de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 258, as *trunculus* var.; Mediterranean. *HEXAPLEX*

zingus de Gregorio, 1885, Boll. Soc. Malac. Ital., v. 10, p. 258 [err. pro *zicus* de Gregorio]

ZONALIS delle Chiaje, 1841, Desc. Anim. Invert. Sicilie, v. 2, p. 128; Mediterranean. TURRIDAE

ZONATA [*Murexsul*] Hayashi & Habe, 1965, Venus, v. 24, p. 11 [Japanese], 13 [English], pl. 1, fig. 3; Japan [? = *ednae* Smith]. *MUREXSUL*

ZONATUS Tenison-Woods, 1877, Proc. Roy. Soc. Tasmania, (1876), p. 132; Tasmania. *PTEROCHELUS*

PART II. OCENEBRINAE

A

AEDICULARUM [*Tritonalia*] Barnard, 1969, Ann. So. African Mus., v. 47, pt. 4, p. 240, fig. 18c; South Africa. ? *OCENEBRA s.s.*

alata [*Purpura*] Schumacher, 1817, Essai Vers Test., p. 213; North Pacific [= *Murex foliatus* Gmelin, both for Chemnitz, v. 10, figs. 1538, 1539]. *CERATOSTOMA*

ALBESCENS [*Purpura*] Dall, 1919, Proc. U. S. Nat. Mus., v. 56, p. 332, as [*Murex*] *nuttalli* var.; California [? = *nuttalli* Conrad]. *CERATOSTOMA*

albina [*Ocinebrina*] Pallary, 1906, Jour. de Conchyl., v. 54, p. 93, as *edwardsi* var.; Mediterranean [nude name]. *OCINEBRINA*

ALBOFASCIATA [*Purpura*] Dall, 1919, Proc. U. S. Nat. Mus., v. 56, p. 332, as [*Murex*] *nuttalli* var.; California [? = *nuttalli* Conrad]. *CERATOSTOMA*

ALPHA [*Tritonalia*] Dall, 1921, U. S. Nat. Mus., Bull. 112, p. 108, pl. 13, fig. 9, as *interfossa* var.; Northeast Pacific. *OCENEBRA s.s.*

*ANELLII Montanaro, 1935, Palaeont. Ital., v. 35, p. 41, pl. 3, fig. 11; Miocene, Italy. *OCENEBRA s.s.*

*ANGUSTIFOLIA [*Pteropurpura*] Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, p. 97, pl. 7, fig. 23; Miocene, Germany [? = *badensis* Nyst]. TROPHONINAE

ATROPURPUREA Carpenter, 1865, Proc. Acad. Nat. Sci. Phila., v. 17, p. 64, as *interfossa* var.; Bormann, 1946, Nautilus, v. 60, pl. 4, fig. 8 (lectotype); Northeast Pacific. *OCENEBRA s.s.*

AURANTIA Stearns, 1895, Nautilus, v. 9, p. 16, as *circumtexta* var.; California [? = *circumtexta* Stearns]. *UROSALPINX*

*AVITENSIS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 216, pl. 15, figs. 22, 23; Miocene, France [for *Murex scalaris* Benoist, 1880, *non* Brocchi]. *OCINEBRINA*

B

*BANTAMENSIS Martin, 1899, Samml. Geol. Reichsmus. Leiden, (n.s.) v. 1, pt. 6, p. 133, pl. 21, figs. 305, 306; Pliocene, Java. ? *CORALLIOPHILA*

*BARBITOIDES [*Tritonalia* ?] Gardner, 1948, U. S. Geol. Sur., Prof. Paper 199-B, p. 220, pl. 29, figs. 14, 15; Miocene, Virgina [? = *Murex umbrifer* Conrad]. *PTERORYTIS*

*BASEDOWI [*Hadriania*] Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 46; Miocene, Australia [n.n. pro *Murex irregularis* Tate *non* Bellardi]. *XENOTROPHON*

BENISAFIENSIS Koch *in* Pallary, 1900, Jour. de Conchyl., v. 48, p. 283, pl. 7, figs. 6, 7, as [*Murex*] *hanleyi* var.; Mediterranean [? = *erinaceus* Linné]. *OCENEBRA s.s.*

*BENOISTI Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 195, pl. 13, figs. 21, 22; Miocene, France [for *Murex erinaceus* Benoist, 1873, *non* Linné]. *OCENEBRA s.s.*

BETA [*Tritonalia*] Dall, 1919, Proc. Biol. Soc. Washington, v. 32, p. 250, as *interfossa* var.; Bormann, 1946, Nautilus, v. 60, pl. 4, fig. 15 (holotype); California. *OCENEBRA s.s.*

*BOYTONENSIS Harmer, 1914, Pliocene Moll. Gt. Brit., v. 1, pt. 1, *in* Palaeont. Soc., v. 67, p. 125, pl. 12, fig. 8, as [*Murex*] *tortuosus* J. de C. Sowerby var.; Pliocene, England. TROPHONINAE

*BREVIOR Montanaro, 1935, Palaeont. Ital., v. 35, p. 35, pl. 2, fig. 23, as *edwardsi* var.; Miocene, Italy. *OCINEBRINA*

*BRIGNOLII Doderlein *in* Montanaro, 1935, Palaeont. Ital., v. 35, p. 39, pl. 3, fig. 8; Miocene, Italy. ? *UROSALPINX*

C

**caelatus* [*Fusus*] Grateloup, 1847, Conchyl. Adour, Atlas, Turbinelles, pl. 3 [pl. 24], fig. 26; Miocene, France. [This species may be supposedly the same as *Fusus coelatus* Dujardin, 1837, however, Grateloup did not cite that author. The shells are similar in form but do seem to differ slightly. Nevertheless, *F. caelatus* is preoccupied by *F. coelatus* (Code, Art. 58-1), therefore, see *excoelata* Cossmann & Peyrot, n.n., also *Murex condigus* de Gregorio and *Murex taurelongata* Sacco.] *OCINEBRINA*

CALA Pilsbry, 1897, Proc. Acad. Nat. Sci. Phila., v. 49, p. 296; Uruguay. ? *UROSALPINX*

CANDIDA Dautzenberg, 1894, Feuille Jeunes Nat., (ser. 3) v. 25, No. 290, p. 28, as [*Murex*] *erinaceus* var.; East Atlantic. *OCENEBRA s.s.*

*CANTHAROIDES [*Hadriania*] Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 233, pl. 17, figs. 17, 18; Miocene, France. *PSEUDOMUREX*

*CAPITOFORMIS [*Purpura (? Tritonalia)*] Voorthuysen, 1944, Meded. Geol. Stichting, Ser. C-4-1, No. 5, p. 73, pl. 6, figs. 7, 8, 16; Miocene, Netherlands. *OCINEBRINA*

CARIBBAEA [*Tritonalia*] Bartsch & Rehder, 1939, Smithsonian Misc. Coll., v. 98, No. 10, p. 7, pl. 1, fig. 1; West Atlantic [? = *Fusus muricoides* C. B. Adams]. *RISOMUREX*

CARINATELLA [*Hadriania*] Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 169, pl. 7, fig. 64, as [*Murex*] *brocchii* Monterosato var.; Adriatic. *HADRIANIA*

CARNEOLA Dautzenberg & Durouchoux, 1913, Feuille Jeunes Nat., v. 43, Suppl. No. 516, p. 20, as [*Murex*] *erinaceus* var.; East Atlantic. *OCENEBRA s.s.*

CASSIDULA [*Ocinebrina*] Monterosato, 1884, Nomen. Conch. Medit., p. 112, as *edwardsi* var.; Mediterranean. *OCINEBRINA*

CAVERNOSA [*Tritonalia*] "Reeve" Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 89; Mediterranean [? err. pro *Murex caliginosus* Reeve]. *OCENEBRA s.s.*

*CAZEAUXI Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 209, pl. 13, figs. 7, 8; Miocene, France. *OCINEBRINA*

*CERRETENSIS Arnold, 1903, Mem. Calif. Acad. Sci., v. 3, p. 258, as *lurida* var.; Pleistocene, California. ? *UROSALPINX*

*CESTASENSIS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 220, pl. 14, fig. 35, as *excoelata* var.; Miocene, France. *OCINEBRINA*

*CHICOANA [*Hadriania*] Ihering, 1907, Ann. Mus. Nacl. Buenos Aires, v. 14, p. 186, pl. 6, fig. 33, as *jorgensis* var.; Miocene, Patagonia. *OCENEBRA s.s.*

CHICOROIDES [*Tritonalia*] Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 89; Mediterranean. ? *OCENEBRA s.s.*

CINCTA [*Ocinebrina*] Pallary, 1906, Jour. de Conchyl., v. 54, p. 93, as *edwardsi* var.; Mediterranean. *OCINEBRINA*

CINGULIFERA [*Ocinebrina*] Pallary, 1920, Explor. Sci. Maroc, Mém. Soc. Sci. Nat. Maroc, p. 40, as [*Murex*] *aciculatus* var.; Mediterranean. *OCINEBRINA*

CIRCUMTEXTA Stearns, 1871, Amer. Jour. Conch., v. 7, p. 172, pl. 14, fig. 14 [not fig. 15 as stated]; California. *UROSALPINX*

CITRICA [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 334, as *circumtexta* var.; California [? = *aurantia* Stearns]. *UROSALPINX*

*CLARKI Addicott, 1970, U. S. Geol. Sur., Prof. Paper 642, p. 80, pl. 8, figs. 6-8; Miocene, California. *OCENEBRA s.s.*

*CLATHRATA Harmer, 1918, Pliocene Moll. Gt. Brit., v. 1, pt. 3, *in* Palaeont. Soc. v. 70, p. 343, pl. 35, figs. 10, 14, as [*Murex*] *tortuosus* J. de C. Sowerby var.; Pleistocene, England. TROPHONINAE

clathrata [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 334, as *interfossa* var.; Bormann, 1946, Nautilus, v. 60, pl. 4, fig. 2 (holotype); California. *OCENEBRA s.s.*

clathrata [*Tritonalia*] Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 88, as [*Murex*] *erinaceus* var.; Mediterranean. *OCENEBRA s.s.*

*COELATUS [*Fusus*] Dujardin, 1837, Mém. Soc. Géol. France, v. 2, p. 294, pl. 19, fig. 1; Miocene, France. *OCINEBRINA*

*COLORATUS Degrange-Touzin, 1894, Étude Prél. Orthez, p. 385, pl. 13, fig. 11; Miocene, France. *OCINEBRINA*

*CONRADIANA [*Pterorhytis*] Dall, 1903, Trans. Wagner Free Inst. Sci., v. 3, pt. 6, expl. to pl. 60; Mio-Pliocene, Florida [? emendation or n. n. pro *Murex conradi* Dall *non* d'Orbigny]. *PTERORYTIS*

*CORYPHAENA [*Tritonalia*] Woodring, 1947, U.S. Geol. Sur., Prof. Paper 207, p. 76, pl. 30, fig. 2; Pleistocene, California. *OCENEBRA s.s.*

*COSTELLATA [*Fusus*] Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 32, p. 42, as [*Fusus*] *alligatus* Lamarck var.; 1847, Conchyl. Adour, Atlas, Turbinelles, pl. 3 [pl. 24], fig. 23; Miocene, France. *OCENEBRA s.s.*

*CRASSA Doderlein *in* Montanaro, 1935, Palaeont. Ital., v. 35, p. 36, pl. 3, fig. 3, as [*Murex*] *dertonensis* var.; Miocene, Italy. ? *UROSALPINX*

*CRATICULOIDES [*Tritonalia*] E. H. Vokes, 1964, Malacologia, v. 2, p. 20; Pliocene, Italy [for *Murex craticulatus* Brocchi, 1814, pl. 7, fig. 14, *non* Linné; n.n. pro *Murex brocchii* Monterosato *non* Cantraine. Although there have been some 30 varietal names proposed for this exceedingly variable species, all appear to be reasonably valid. Therefore, rather than selecting one of them as a replacement for the well known "*craticulatus* Brocchi," it was deemed best to rename the form assuring the synonymy.] *HADRIANIA* (type, as *craticulatus* Brocchi)

CRISPATISSIMA Berry, 1953, Trans. San Diego Soc. Nat. Hist., v. 11, No. 16, p. 414, pl. 28, fig. 6; California. *OCENEBRA s.s.*

CYCLOPUS [*Ocinebrina*] Benoit *in* Monterosato, 1884, Nomen. Conch. Medit., p. 112; Mediterranean. *OCINEBRINA*

D

*DAINITIENSIS [*Tritonalia*] Makiyama, 1927, Mem. Coll. Sci. Kyoto Imp. Univ., Ser. B, v. 3, p. 127, pl. 6, figs. 7, 8; Pliocene, Japan. ? *OCENEBRA s.s.*

*DALLONII [*Tritonalia*] Moroni, 1956, Giorn. Geol., v. 25, p. 107, pl. 7, figs. 40-42, as [*Murex*] *inflexus* var.; Miocene, San Marino. *UROSALPINX*

*DELICATULA [*Tritonalia*] Ruggieri, Bruno, & Curti, 1959, Atti Accad. Palermo, (ser. 4) v. 18, p. 36, pl. 7, fig. 40, as [*Murex*] *brocchi* Monterosato var.; Pliocene, Italy. *HADRIANIA*

*DELORAE [*Ceratostoma*] Hall, 1958, Univ. Calif. Publ. Geol. Sci., v. 34, No. 1, p. 57, pl. 10, figs. 1-3; Miocene, California. *CERATOSTOMA*

*DEPOENSIS Moore, 1963, U.S. Geol. Sur., Prof. Paper 419, p. 34, pl. 4, figs. 8, 9; Miocene, Oregon. *OCENEBRA s.s.*

DEROYANA [*Pteropurpura*] Berry, 1968, Leaflets in Malac., v. 1, No. 25, p. 156; Galápagos. *PTEROPURPURA*

*DIETRICHI Böhm *in* Kaiser, 1926, Die Diamantenwüste Sudwest-Afrik., v. 2, p. 68, pl. 34, fig. 5; ? Miocene, Southwest Africa. TROPHONINAE

*DORRANCEI [*Tritonalia*] Loel & Corey, 1932, Univ. Calif. Publ., Bull. Geol., v. 22, No. 3, p. 247, pl. 47, fig. 18; Miocene, California. BUCCINIDAE

*DRYAS [*Pteropurpura*] Gardner, 1947, U.S. Geol. Sur., Prof. Paper 142-H, p. 525, pl. 53, fig. 9; Miocene, Florida. *CERATOSTOMA*

*DUVERGIERI Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 203, pl. 14, figs. 25, 26; Miocene, France [for *Murex striaeformis* Benoist, 1880, *non* Michelotti]. *OCINEBRINA*

E

EDWARDSI [*Purpura*] Payraudeau, 1826, Moll. Corse, p. 155, pl. 7, figs. 19, 20; Mediterranean. *OCINEBRINA* (type — *Dentocenebra* Monterosato)

*ELONGATA Doderlein *in* Montanaro, 1935, Palaeont. Ital., v. 35, p. 31, pl. 2, fig. 15, as [*Murex*] *sowerbyi* Michelotti var.; Miocene, Italy. *PTEROPURPURA*

EMIPOWLUSI Abbott, 1954, Nautilus, v. 68, p. 41, pl. 2, fig. 3; West Atlantic. ? *OCENEBRA s.s.*

EPIPHANEA [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 335; California. *OCENEBRA s.s.*

*EVANESCENS [*Hadriania*] Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 231, pl. 14, figs. 43, 44, as [*Murex*] *mioincrassata* var.; Miocene, France. *HADRIANIA*

*EXCOELATA Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 218, pl. 16, figs. 5, 6; Miocene, France [n.n. pro *Fusus caelatus* Grateloup *non* Dujardin; see also *Murex condigus* de Gregorio and *Murex taurelongata* Sacco]. *OCINEBRINA*

F

*FALUNICA [*Hadriania*] Peyrot, 1938, Actes Soc. Linn. Bordeaux, v. 89, Suppl., p. 192, pl. 4, fig. 67; Miocene, France. *HADRIANIA*

FASCIATA Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, as [*Murex*] *labiosus* Nardo var.; Adriatic. *OCINEBRINA*

*FESTIVOIDEA [*Tritonalia*] E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 161, pl. 2, fig. 5; Miocene, North Carolina. *OCENEBRA s.s.*

*FLUVIANA [*Pterorhytis*] Dall, 1903, Trans. Wagner Free Inst. Sci., v. 3, pt. 6, pl. 60, figs. 20, 21, as *conradiana* var. [not in text]; Pliocene, Florida [? = *conradiana* Dall]. *PTERORYTIS* (type-*Neurarhytis* Olsson & Harbison)

*FORESTI Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 215; Miocene, Italy [for *Murex sublavatus* Foresti, 1868, *non* Basterot]. *OCINEBRINA*

FRASERI [*Tritonalia*] Oldroyd, 1920, Nautilus, v. 33, p. 136, pl. 4, figs. 1, 2; British Columbia. *OCENEBRA s.s.*

*FRIEDBERGI Montanaro, 1935, Palaeont. Ital., v. 35, p. 43, pl. 3, fig. 13; Miocene, Italy. *OCENEBRA s.s.*

FUSCONOTATA [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 333; California. *OCENEBRA s.s.*

G

*GIBBOVARICOSA Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 215, pl. 14, figs. 16, 17; Miocene, France. *OCINEBRINA*

GRAAGAE [*Tritonalia*] Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 91; South Africa [? = *Murex uncinarius* Lamarck]. *POROPTERON*

GRACILLIMA Stearns, 1871, Amer. Jour. Conch., v. 7, p. 172, pl. 14, fig. 15 [not fig. 14 as stated]; California. *OCENEBRA s.s.*

*GRATELOUPI [emend.] [*Fusus*] d'Orbigny, 1852, Prodrome Paléont., v. 3, p. 66; Miocene, France [for *Fusus variabilis* Grateloup, 1847, pl. 24, fig. 29, *non* Lamarck; orig. as *gratteloupi*]. ? *OCINEBRINA*

H

HAMBACHI Hertlein, 1958, Bull. So. Calif. Acad. Sci., v. 56, p. 109, pl. 21, figs. 10, 11, as *sloati* var.; East Pacific. ? *CANTHARUS*

HELLERI [*Fusus*] Brusina, 1865, Verh. K.-K. Zool. Bot. Gesell. Wein, v. 15, p. 8; Mediterranean. *OCINEBRINA*

hellerianus [*Fusus*] Brusina, 1866, Verh. K.-K. Zool. Bot. Gesell. Wein, v. 16, p. 63; Mediterranean [? emendation or err. pro *helleri* Brusina]. *OCINEBRINA*

*HELVITICUS [*Hadriania*] Peyrot, 1938, Actes Soc. Linn. Bordeaux, v. 89, Suppl., p. 194, pl. 4, figs. 54, 56; Miocene, France. *PSEUDOMUREX*

HISPIDULA [*Ocinebrina*] Pallary, 1904, Jour. de Conchyl., v. 52, p. 231, pl. 7, fig. 18, as *edwardsi* var.; Mediterranean. *OCINEBRINA*

*HOERNESI [*Tritonalia*] Mongin, 1952, Mém. Mus. Hist. Nat. Paris, (n.s.) v. 2, p. 78, pl. 6, fig. 16 [for *Murex sublavatus* Hörnes, 1856, pl. 24, figs. 14-16, *non* Basterot]; Miocene, Austria [see also *caelatus* Grateloup, *Murex condigus* de Gregorio & *Murex crassilabiatus* Hilber]. *OCINEBRINA*

HUMILIS [*Tritonalia*] Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 89; Mediterranean. *OCENEBRA s.s.*

I

INCOMPTUS [*Trophon*] Gould, 1860, Proc. Boston Soc. Nat. Hist., v. 7, p. 329; Johnson, 1964, U.S. Nat. Mus., Bull. 239, pl. 14, fig. 6 (lectotype); Japan. *OCENEBRA s.s.*

INERMICOSTA [*Tritonalia*] E. H. Vokes, 1964, Malacologia, v. 2, p. 20; West Africa [n.n. pro *Murex fasciatus* "Risso?" G. B. Sowerby II *non* Gmelin]. *OCENEBRA s.s.* (type-*Inermicosta* Jousseaume, as *fasciatus* G. B. Sowerby II)

INFELIX [*Tritonalia*] Fischer-Piette, 1942, Jour. de Conchyl., v. 85, p. 228 [n.n. pro *Murex fusiformis* Adams *non* Gmelin]. ? *UROSALPINX*

*INFLATA [*Hadriania*] Montanaro, 1935, Palaeont. Ital., v. 35, p. 60, pl. 3, fig. 26, as *renieri* var.; Miocene, Italy. ? *OCINEBRINA*

INTERFOSSA Carpenter, 1864, Brit. Assoc. Adv. Sci., (1863), p. 663; Bormann, 1946, Nautilus, v. 60, pl. 4, fig. 10 (holotype); California. *OCENEBRA s.s.*

J

JENKSII Baker, 1889, Nautilus, v. 3, p. 80. ? *UROSALPINX*

*JORGENSIS [*Hadriania*] Ihering, 1907, Ann. Mus. Nacl. Buenos Aires, v. 14, p. 185, pl. 6, fig. 32; Miocene, Patagonia. *OCENEBRA s.s.*

JURITZI [*Tritonalia*] Barnard, 1969, Ann. So. African Mus., v. 47, pt. 4, p. 639, fig. 18d; South Africa. ? *PHOS*

K

KEENAE Bormann, 1946, Nautilus, v. 60, p. 40, pl. 4, figs. 17, 18; California. *OCENEBRA s.s.*

*KEEPI Arnold, 1903, Mem. Calif. Acad. Sci., v. 3, p. 256, pl. 5, fig. 9; Plio-Pleistocene, California. *OCENEBRA s.s.*

*KENDALLI Harmer, 1920, Pliocene Moll. Gt. Brit., v. 2, pt. 1, *in* Palaeont. Soc., v. 72, p. 522, pl. 47, fig. 3; Pliocene, England.

KOCHIANA G. B. Sowerby III, 1900, Proc. Malac. Soc. London, v. 4, p. 126, pl. 11, fig. 1; Indo-Pacific. *CORALLIOPHILA*

*KUSCERI Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, p. 98, pl. 7, figs. 24, 25; Miocene, Germany. *OCENEBRA s.s.*

L

*LACUSTRIS [*Hadriania*] Ihering, 1907, Ann. Mus. Nacl. Buenos Aires, v. 14, p. 185; Miocene, Patagonia [for *Urosalpinx pyriformis* Ortmann, 1902, pl. 34, fig. 11, *non* Ihering]. ? *OCENEBRA s.s.*

LAMPUSIOPSIS [*Tritonalia*] Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 89; East Atlantic. *OCENEBRA s.s.*

*LASSAIGENEI [*Purpura*] Basterot, 1825, Mém. Soc. Hist. Nat. Paris, v. 2, p. 50, pl. 3, fig. 17; Miocene, France. *OCENEBRA s.s.*

*LUMARIA Yokoyama, 1926, Jour. Fac. Sci. Imp. Univ. Tokyo, (Sec. 2), v. 1, pt. 8, p. 270, pl. 32, fig. 21; Pliocene, Japan. *OCENEBRA s.s.*

LURIDUM [*Tritonium*] Middendorf, 1848, Bull. Phys. Math. Acad. Imp. Sci. St. Petersburg, v. 7, p. 244; 1849, Beit. Malac. Rossica, v. 1, pt. 2, p. 150, pl. 4, figs. 4, 5; Northeast Pacific. [This species was not described as an *Ocenebra* nor is it an *Ocenebra,* being most closely related to *"Ocenebra" circumtexta,* but has so often been cited by this name that it is included here.] *UROSALPINX*

M

MACULATA [*Ocinebrina*] Pallary, 1900, Jour. de Conchyl., v. 48, p. 284, as *nicolai* var.; Mediterranean. *OCINEBRINA*

major [*Ocinebrina*] Pallary, 1900, Jour. de Conchyl., v. 48, p. 284, as [*Murex*] *corallinus* var.; Mediterranean [nude name]. *OCINEBRINA*

major Pallary, 1906, Jour. de Conchyl., v. 54, p. 92, as [*Murex*] *erroneous* var., Mediterranean [nude name]. *OCINEBRINA*

MAJOR Dautzenberg, 1920, Jour. de Conchyl., v. 65, p. 46, as [*Murex*] *erinaceus* var.; East Atlantic. *OCENEBRA s.s.*

*MAKIYAMAI [*Tritonalia*] Kuroda & Kotaka, 1952, Short Papers Inst. Geol. Paleont., Tohoku Univ., No. 4, p. 79, pl. 7, figs. 26, 27; Miocene, Korea. *CERATOSTOMA*

*MARKSI [*Pteropurpura*] Olsson, 1964, Neogene Moll. N. W. Ecuador, p. 139, pl. 29, fig. 6; Pliocene, Ecuador. *PTEROPURPURA*

*MARSHALLI [*Purpura*] Mansfield, 1930, Florida Geol. Sur., Bull. 3, p. 84, pl. 11, fig. 4; Miocene, Florida. *PTERORYTIS*

MERCAENSIS [*Tritonalia*] Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 90; Indian Ocean. ? *OCENEBRA s.s.*

*MERIGNACENSIS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 220, pl. 14, figs. 38, 39, as *excoelata* var.; Miocene, France. *OCINEBRINA*

MICHAELI Ford, 1888, Proc. Acad. Nat. Sci. Phila., v. 40, p. 188, text fig.; California [? = *Muricidea subangulata* Stearns]. ? *UROSALPINX*

*MILICENTANA [*Purpura*] Loel & Corey, 1932, Univ. Calif. Publ., Bull. Geol., v. 22, No. 3, p. 246, pl. 48, figs. 7, 8; Miocene, California. *OCENEBRA s.s.*

minima [*Ocinebrina*] Pallary, 1917, Jour. de Conchyl., v. 63, p. 144, as *inermis* Philippi var.; Dardanelles [nude name]. ? *OCINEBRINA*

MINIROSEA Abbott, 1954, Nautilus, v. 68, p. 43, pl. 2, fig. 1; West Atlantic [for *Murex micromeris* Dall & Simpson, 1902, pl. 53, fig. 17, *non* Dall]. ? *OCENEBRA s.s.*

minor Pallary, 1900, Jour. de Conchyl., v. 48, p. 283, as [*Murex*] *erinaceus* var.; Mediterranean [nude name]. *OCENEBRA s.s.*

minor Pallary, 1906, Jour. de Conchyl., v. 54, p. 92, as [*Murex*] *erroneus* var.; Mediterranean [nude name]. ? *OCINEBRINA*

*MINOR Harmer, 1914, Pliocene Moll. Gt. Brit., v. 1, pt. 1, *in* Palaeont. Soc.,

v. 67, p. 125, pl. 12, figs. 9-11, as [*Murex*] *tortuosus* J. de C. Sowerby var.; Pleistocene, England. TROPHONIAE

minor [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 334; Bormann, 1946, Nautilus, v. 60, pl. 4, fig. 5 (holotype); California. *OCENEBRA s.s.*

minor [*Ocinebrina*] Pallary, 1920 Explor. Sci. Maroc, Mém. Soc. Sci. Nat. Maroc, p. 40, as *purpuroidea* var.; East Atlantic. *OCINEBRINA*

*MINUTISQUAMA [*Hadriania*] Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 231, pl. 15, fig. 55; Miocene, France. ? *PSEUDOMUREX*

MISCOWICKI [*Ocinebrina*] Pallary, 1920, Explor. Sci. Maroc, Mém. Soc. Sci. Nat. Maroc, p. 40, pl. 1, figs. 5, 6; East Atlantic. *OCINEBRINA*

MODESTA Fulton, 1936, Proc. Malac. Soc. London, v. 22, p. 10, pl. 2, fig. 3; Japan. *PTEROPURPURA*

MONOPTERA Pilsbry, 1904, Proc. Acad. Nat. Sci. Phila., v. 56, p. 17, pl. 4, fig. 32; Japan. *GENKAIMUREX*

MUNDA Carpenter, 1864, Rept. Brit. Assoc. Adv. Sci., (1863), p. 663, as *lurida* var.; Williamson, 1892, Proc. U.S. Nat. Mus., v. 15, pl. 20, fig. 3 (lectotype); Northeast Pacific. *OCENEBRA s.s.*

MUTICA [*Ocinebrina*] Pallary, 1906, Jour. de Conchyl., v. 54, p. 93, as *edwardsi* var.; Mediterranean. *OCINEBRINA*

MUTICA Dautzenberg & Durouchaux, 1913, Feuille Jeunes Nat., v. 43, Suppl. No. 516, p. 19, as [*Murex*] *erinaceus* var.; East Atlantic. *OCENEBRA s.s.*

*MUTINENSIS Montanaro, 1935, Palaeont. Ital., v. 35, p. 37, pl. 3, fig. 4, as [*Murex*] *dertonensis* var.; Miocene, Italy. *UROSALPINX*

N

*NANNA [*Purpura*] Nomland, 1917, Univ. Calif. Publ., Bull. Geol., v. 10, No. 18, p. 310, pl. 19, fig. 1; Miocene, California. *CERATOSTOMA*

NICOLAI [*Ocinebrina*] Monterosato, 1884, Nomen. Conch. Medit., p. 112; Pallary, 1900, Jour. de Conchyl., v. 48, pl. 7, fig. 8; Mediterranean. *OCINEBRINA*

nurior [*Tritonalia*] "Dall" Preston, 1921, Zool. Rec., v. 56 (1919), Moll. p. 33 [err. pro *minor* Dall]

NUX [*Purpura*] Reeve, 1846, Conch. Icon., v. 3, *Purpura*, pl. 13, fig. 73 [see *Murex nucalis* Locard, unnecessary n.n.] *OCINEBRINA*

O

OBBA Rovereto, 1914, Stud. Strat. Fauna Olig. Ligure, p. 134, pl. 2, fig. 4; Oligocene, Italy. *OCINEBRINA*

OBESA [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 333, as *gracillima* var.; California. *OCENEBRA s.s.*

*OBLIQUECOSTATA [*Hadriania*] Montanaro, 1935, Palaeont. Ital., v. 35, p. 51, pl. 3, fig. 28, as [*Murex*] *becki* Michelotti var.; Miocene, Italy. *CORALLIOPHILA*

*OCCITANICA Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 213, pl. 13, figs. 37-39; Miocene, France [for *Murex sublavatus* Benoist, 1873, & 1880, *non* Basterot]. *OCINEBRINA*

onutinensis "Montanaro" Salisbury, 1936, Zool. Rec., v. 72 (1935), Moll. p. 91 [err. pro *mutinensis* Montanaro]

*ORIENTALIS Friedberg, 1928, Mieczaki Miocen. *in* Muz. Dzieduszyckich, v. 14, No. 5, p. 587; Miocene, Poland [for *Murex sublavatus* Friedberg, 1912, pl. 11, figs. 8-10, *non* Basterot]. *OCINEBRINA*

P

*PARVIFOLIA [*Pteropurpura*] Kautsky, 1925, Abh. Preuss. Geol. Landesanst. Berlin, v. 97, p. 96, pl. 7, fig. 22; Miocene, Germany [see also *nysti* von Koenen]. TROPHONINAE

*PAUCICOSTATA Peyrot, 1938, Actes Soc. Linn. Bordeaux, v. 89, Suppl., p. 191, as *subscalaris* var.; Miocene, France. *OCINEBRINA*

*PECKI [*Pterorytis*] Emerson, 1959, Amer. Mus. Novitates, No. 1974, p. 6, fig. 4; Miocene, Mexico. *CERATOSTOMA* (type-*Microrhytis* Emerson)

*PEDEMONTANA Cossmann, 1903, Essais Paléoconch. Comp., v. 5, p. 39; Miocene, Italy [n.n. pro *Murex scalariformis* Bellardi *non* Nyst]. *OCINEBRINA*

*PENTAEDRICA Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 198, pl. 15, fig. 46; Miocene, France [for *Murex irregularis* Benoist, 1873, *non* Bellardi]. *OCENEBRA s.s.*

*PERPONDEROSA [*Purpura*] Dall, 1909, U.S. Geol. Sur., Prof. Paper 59, p. 46, pl. 2, figs. 2, 5; Miocene, Oregon. *CERATOSTOMA*

*PERVARICOSA Montanaro, 1935, Palaeont. Ital., v. 35, p. 31, pl. 2, fig. 16, as [*Murex*] *sowerbyi* Michelotti var.; Miocene, Italy. *PTEROPURPURA*

PETTARDI [*Trophon*] Brazier *in* Crosse, 1870, Jour. de Conchyl., v. 18, p. 303; 1871, *ibid.*, v. 19, pl. 12, fig. 2; Tasmania. ? *OCINEBRINA*

PILSBRYANA Baker, 1891, Proc. Acad. Nat. Sci. Phila., v. 43, p. 57; Ceylon. ? *UROSALPINX*

*PLEURICOSTULATA Montanaro, 1935, Palaeont. Ital., v. 35, p. 42, pl. 3, fig. 12, as *anellii* var.; Miocene, Italy. *OCENEBRA s.s.*

POULSONI Nuttall *in* Carpenter, 1864, Brit. Assoc. Adv. Sci., (1863), p. 663 [brief but valid description]; 1865, Jour. de Conchyl., v. 12, p. 148; Palmer, 1958, Geol. Soc. Amer. Mem. 76, pl. 26, fig. 8 (holotype); California. *THAIS*

PRODUCTA Dautzenberg & Durouchoux, 1913, Feuille Jeunes Nat., v. 43, No. 516, p. 19, as [*Murex*] *erinaceus* var.; East Atlantic [if *Ocinebrina* is held to be a subgenus of *Ocenebra,* then this is preoccupied by *"Murex" productus* Bellardi, 1872]. *OCENEBRA s.s.*

prolator "Adams & Reeve" Hall, 1959, Jour. Paleont., v. 33, p. 432 [err. pro *Murex plorotor* A. & R.]

*PROTOADUNCA Hatai & Kotaka, 1959, Saito Ho-on Kai Mus. Research Bull. No. 28, p. 10, figs. 1, 3, as [*Murex*] *aduncus* var.; Miocene, Japan. *OCINEBRELLUS*

PURPUROIDEA [*Ocinebrina*] Pallary, 1920, Explor. Sci. Maroc, Mém. Soc. Sci. Nat. Maroc, p. 39, pl. 1, figs. 16, 17, 24; East Atlantic. ? *OCINEBRINA*

PUSTULATA Locard, 1899, Exchange, v. 15, p. 71; Mediterranean. *OCENEBRA s.s.*

Q

*QUADRULUS Tournouër *in* Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 197, pl. 18, figs. 20, 21; Miocene, France. *OCENEBRA s.s.*

*QUINQUEDENTATUS [*Fusus*] Grateloup, 1833, Actes Soc. Linn. Bordeaux, v. 6, No. 32, p. 43; 1847, Conchyl. Adour, Atlas, Turbinelles, pl. 3 [pl. 24], fig. 24 [spelled *quinquedens* on plate]; Miocene, France. ? *OCINEBRINA*

R

REJECTA [*Tritonalia*] Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 90; Mediterranean. ? *OCENEBRA s.s.*

*RENIERI [*Fusus*] Michelotti, 1847, Nat. Verh. Hollandsche Maat. Wetensch. Haarlem, (ser. 2) v. 3, p. 283, pl. 9, fig. 19; Miocene, Italy, *OCINEBRINA*

REQUIENI Locard, 1899, Exchange, v. 15, p. 72; Mediterranean. *OCENEBRA s.s.*

*RETICULATA Harmer, 1918, Pliocene Moll. Gt. Brit., v. 1, pt. 3, *in* Palaeont. Soc., v. 70, p. 346, pl. 36, figs. 20, 21, as [*Tritonium*] *craticulatus* Fabricius var.; Pleistocene, England. *TROPHON*

*RHOMBUS [*Fusus*] Dujardin, 1837, Mém. Soc. Géol. France, v. 2, p. 294, pl. 19, fig. 7; Miocene, France. ? *OCINEBRINA*

ROTUNDA [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 333, as *lurida* var.; California. *UROSALPINX*

rotunda [*Tritonalia*] Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 88; East Atlantic. *OCENEBRA s.s.*

RUBRA Baker, 1891, Proc. Rochester Acad. Sci., v. 1, p. 134, pl. 11, figs. 6, 7. *OCINEBRINA*

RUSCURIANA [*Tritonalia*] Monterosato *in* Coen, 1943, Acta Pont. Acad. Sci., v. 11, p. 89; Mediterranean. ? *UROSALPINX*

S

*SACCOI Cosssmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 200; Miocene, Italy [for *lassaignei* Sacco, 1904, pl. 5, fig. 5, *non* Basterot]. *OCENEBRA s.s.*

*SACYI Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 206, pl. 14, figs. 22, 23; Miocene, France. *OCENEBRA s.s.*

SCALATA [*Ocinebrina*] Pallary, 1906, Jour. de Conchyl., v. 54, p. 93, pl. 4, figs. 8, 9, as [*Murex*] *hybridus* var.; Mediterranean. *OCINEBRINA*

SCLERA [*Tritonalia*] Dall, 1919, Proc. U.S. Nat. Mus., v. 56, p. 334; Smith, 1939, Illus. Cat. Rock Shells, pl. 12, fig. 9 (holotype); Northeast Pacific. *UROSALPINX*

SEFTONI Chase, 1958, Trans. San Diego Soc. Nat. Hist., v. 12, No. 19, p. 331, fig. 1; East Pacific. *OCENEBRA s.s.*

SEMIDISJUNCTA [*Tritonalia*] Turton, 1932, Marine Shells Port Alfred, p. 76, pl. 18, No. 551; South Africa. ? *UROSALPINX*

*SEMINOLA [*Pterorhytis*] Olsson & Petit, 1964, Bull. Amer. Paleont., v. 47, No. 217, p. 550, pl. 81, fig. 4; Miocene, Florida. *PTERORYTIS*

*SILVERDALENSE [*Tritonalia*] E. H. Vokes, 1963, Tulane Stud. Geol., v. 1, No. 4, p. 162, pl. 2, figs. 6, 7; Miocene, North Carolina. *MIOCENEBRA* (type)

*SIMILIS Harmer, 1918, Pliocene Moll. Gt. Brit., v. 1, pt. 3, *in* Palaeont. Soc., v. 70, p. 344, pl. 35, fig. 13, as [*Murex*] *pseudonysti* var.; Pleistocene, England. TROPHONINAE

SLOATI Hertlein, 1958, Bull. So. Calif. Acad. Sci., v. 56, p. 108, pl. 21, figs. 8, 9; East Pacific. ? *CANTHARUS*

*SPECTATA Yokoyama, 1922, Jour. Coll. Sci. Tokyo, v. 44, p. 65, pl. 3, fig. 5; Pliocene, Japan. *OCINEBRELLUS*

SQUAMULIFER [*Trophon*] Carpenter *in* Gabb, 1869, Paleontology [of California], v. 2, p. 44; Bormann, 1946, Nautilus, v. 60, pl. 4, fig. 13 (? holotype); California. *OCENEBRA s.s.*

STEARNSI Hemphill, 1911, Trans. San Diego Soc. Nat. Hist., v. 1, No. 3, p. 100; California. *OCENEBRA s.s.*

*STRIATUM [*Tritonium*] Eichwald, 1830, Naturhist. Lithauen, p. 225; 1855, Lethaea Rossica, pl. 8, fig. 2 [as *Fusus striatus*]; Miocene, Central Europe. *OCINEBRINA*

*SUBARIESIANA Montanaro, 1935, Palaeont. Ital., v. 35, p. 34, pl. 2, fig. 22, as *lassaignei* var.; Miocene, Italy. *OCENEBRA s.s.*

*SUBLASSAIGNEI Peyrot, 1938, Actes Soc. Linn. Bordeaux, v. 89, Suppl., p. 189, pl. 4, figs. 62, 69; Miocene, France [for *lassaignei* Dollfus & Dautzenberg, 1886, *non* Basterot]. *OCINEBRINA*

*SUBSCALARIS Peyrot, 1938, Actes Soc. Linn. Bordeaux, v. 89, Suppl., p. 190, pl. 4, figs. 43, 48; Miocene, France. *OCINEBRINA*

*SUBSPINOSA Friedberg, 1912, Mieczaki Miocen. *in* Muz. Dzieduszyckich, v. 14, No. 2, p. 181, pl. 11, fig. 14, as [*Murex*] *craticulatus* Brocchi var.; Miocene, Poland. ? *HADRIANIA*

SUGA [*Tritonalia*] Fischer-Piette, 1942, Jour. de Conchyl., v. 85, p. 229, pl. 7, figs. 9, 10; West Africa [for "Le Suga" Adanson, pl. 9, fig. 14]. ? *OCINEBRINA*

SUMATRENSIS Thiele, 1925, Wiss. Ergebn. Deutsch. Tiefsee-Exped., v. 17, No. 2, p. 327, pl. 18, fig. 19; Indian Ocean. ? *UROSALPINX*

T

*TENUISCULPTUS [*Trophon*] Carpenter, 1864, Rept. Brit. Assoc. Adv. Sci., (1863), p. 539 [nude name]; 1866, Ann. Mag. Nat. Hist., (ser. 3) v. 12,

p. 277; Palmer, 1921, Bull. Amer. Paleont., v. 8, No. 36, pl. 15, figs. 6-9 (syntypes); Pleistocene, California. *OCENEBRA s.s.*

*TETRANGULATA Montanaro, 1935, Palaeont. Ital., v. 35, p. 32, pl. 2, fig. 17, as [*Murex*] *sowerbyi* Michelotti var.; Miocene, Italy. *PTEROPURPURA*

THERSITES Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, pl. 7, fig. 63, as [*Murex*] *erinaceus* var.; Adriatic. *OCENEBRA s.s.*

*THILENSIS Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 205, pl. 14, figs. 27, 28; Miocene, France. *OCENEBRA s.s.*

*TOPANGENSIS Arnold, 1907, Proc. U.S. Nat. Mus., v. 32, p. 530, pl. 43, fig. 4; Miocene, California. *OCENEBRA s.s.*

TRACHEIA [*Tritonalia*] Dall, 1919, Proc. U. S. Nat. Mus., v. 56, p. 335; Northeast Pacific. *OCENEBRA s.s.*

triquetra Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, pl. 7, fig. 62, as [*Murex*] *erinaceus* var.; Adriatic [? = *Murex triquetra* Risso, and preoccupied by it; ? = *erinaceus* Linné]. *OCENEBRA s.s.*

*TRIVARICOSA [*Ocinebrina*] Baldi *in* Baldi, *et al.,* 1964, Ann. Hist. Nat. Mus. Natl. Hung., v. 56, p. 173, pl. 2, figs. 6-8, as [*Murex*] *crassilabiatus* subsp.; Oligocene, Hungary [for *Murex conspicuus* Wolff, 1897, pl. 26, fig. 24, *non* Braun]. *OCINEBRINA*

*TSUZURENSIS Yokoyama, 1924, Jour. Coll. Sci., Imp. Univ. Tokyo, v. 45, art. 3, p. 10, pl. 1, figs. 1-3; Oligocene, Japan.

*TURRIS [*Purpura*] Nomland, 1916, Univ. Calif. Publ., Bull. Geol., v. 9, No. 6, p. 86, pl. 7, fig. 4; Pliocene, California. *CERATOSTOMA*

U

*UMBILICINA Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 212, pl. 13, fig. 46, as [*Murex*] *sublavatus* var.; Miocene, France [? = pathologic *sublavatus* Basterot]. *OCINEBRINA*

V

*VANDERVLERKI [*Ocinebrina*] van Regteren Altena, 1950, Leidse Geol. Mededelingen, v. 15, p. 214, text fig. 4; Miocene, Java. *DRUPA*

VENETIANA de Gregorio *in* Coen, 1933, R. Com. Talass. Ital. Mem. 192, p. 168, as [*Murex*] *erinaceus* var.; Adriatic. *OCENEBRA s.s.*

**vindobonica* [*Hadriania*] Cossmann & Peyrot, 1923, Conch. Néogén. Aquitaine *in* Actes Soc. Linn. Bordeaux, v. 75, p. 231; Miocene, Austria [for *Murex craticulatus* Brocchi var. Hörnes, 1856, pl. 24, fig. 9 (= *Murex ergnapus* de Gregorio), fig. 11 (= *Murex perisus* de Gregorio), *non* Brocchi]. *OCINEBRINA + HADRIANIA*

VIRIDITINCTA Dautzenberg & Fischer, 1925, Trav. Stat. Biol. Roscoff, fasc. 3, p. 40, as [*Murex*] *erinaceus* var.; East Atlantic. *OCENEBRA s.s.*

VOKESAE [*Pteropurpura*] Emerson, 1964, Veliger, v. 7, p. 5; California [n.n. pro *Murex rhyssus* Dall *non* Tate]. *PTEROPURPURA*

W

*WALDORFENSIS Arnold, 1907, Smithsonian Misc. Coll., v. 50, p. 435, pl. 54, fig. 10, as *michaeli* var.; Pliocene, California. ? *UROSALPINX*

WARDIANA Baker, 1891, Proc. Rochester Acad. Sci., v. 1, p. 134, pl. 11, fig. 5; Australia. *OCINEBRINA*

X, Y, Z

*YNEZANA [*Tritonalia*] Loel & Corey, 1932, Univ. Calif. Publ., Bull. Geol., v. 22, No. 3, p. 248, pl. 47, figs. 15, 16; Miocene, California. BUCCINIDAE

*ZBOROVIENSIS Friedberg, 1912, Mieczaki Miocen. *in* Muz. Dzieduszyckich, v. 14, No. 2, p. 176, pl. 10, figs. 4, 5; Miocene, Poland. *OCENEBRA s.s.*

*ZIBICINA Montanaro, 1935, Palaeont. Ital., v. 35, p. 39, pl. 3, fig. 7, as [*Murex*] *inflexus* var.; Miocene, Italy. ? *UROSALPINX*

MURICINAE — SYSTEMATIC LIST

Capital letters indicate nomenclaturally valid names, italics nomenclaturally invalid names.

Species marked with a query [?] are questionably assigned to the group.

Species with an asterisk have a fossil type (but may also occur in the Recent fauna).

The word "*TYPE*" indicates the valid type species of the group; "(*type*)" indicates the species originally designated as type species but which is a synonym (either objective or subjective) of the other name cited. When it is a *subjective* synonym the other name is marked as "? *TYPE*"

ASPELLA

ANCEPS — *TYPE*
?*DECURRENS
*EMMAE
HASTULA
LAMELLOSA Dunker
PRODUCTA Pease
PYRAMIDALIS Broderip
*SENAX
*SUBANCEPS

ATTILIOSA

CARMEN
INCOMPTA — *TYPE*
PHILIPPIANA
? RUFONOTATUM

BOLINUS

ADUNCA Coen
albina
*ALTAVILLENSIS
*ASSIMILIS
*BEYRICHI
BICAUDATA Coen
*BOLLENENSIS
*BORSONII
BRANDARIFORMIS
BRANDARIS — *TYPE*
CANALIASPINOSUS
CINERA
CINGULATA Coen
clavaherculis
CLAVATUM
compacta Pallary
*CONGLOBOPSIS
CONICA
CONSPICUA Perry
CORNUTUS
*_coronatus_ Risso
*_curvispina_
*DANCONAE
DELGADOI
DELICATULA
DEVIANS
DIPLACANTHA
ECAUDATA
*EGAMUS
?*EXARMATUS
*FASCIOLARIUS
FRAGILIS
fuliginosa
*GAPUS
gigantea
GIRISUS
*_globosus_ K & W
*HAUDMUTICUS
*IMPERIPUS
*_inermis_ Partsch
*_inermis_ Roman
*_inornatus_ Beyrich
*_intermedia_ Depontaillier
LONGISPINA Coen
MONOSPINOSUS
*MONSJOVICA
MOREANUS
multicostatus Serradell
mutica Brugnone
nivea B, D, & D
novemcostatus Serradell
*PARTSCHI
*PAUCISPINATUS
*PERAMANGUS
POLII
*PROCERA
*PROPETIRICUS
*_pseudobrandaris_ D'Ancona
*PSEUDOFASCIOLARIA
*PSEUDOPARTSCHI
quadrispinosa Dautzenberg
*RARIVARICOSA
robusta Dautzenberg
*RUSTICULOPSIS
*SISMONDAE
*SPINIFERA
SPINOTUBERCULATUS
SPIROCAUDATA
*SUBBRANDARIS
*_subspinosa_ Sacco
*SUBTORULARIUS
?*TAURINENSIS
TERNISPINOSA
*TIRICUS
TORTA
*TORULARIUS
*TRIACANTHUS
TRIFARIASPINOSA
TRISPINOSA B, D, & D
trispinosus Locard
TUBERCULATUS

TUDICLOIDES
TUMULOSUS
*UMBRA
**varicosissima* Sacco
*VAUGHANI Maury
*VEREFUSOIDES
*VERTIGUS

CALOTROPHON

*ATTENUATA
BRISTOLAE (*type*)
FLORIDANA
LEUCOSTEPHES
OSTREARUM
*PERPLEXUS O & H
TURRITA — ? *TYPE*

CARIBIELLA

ALVEATUS
ELEGANS Perrilliat — *TYPE*
EROSUS
intermedius Adams

CHICOREUS

ABORTIVA
aculeatus Lamarck
adustus
affinis Reeve
*ALTENAI
*AMBLYCERAS
anguliferus
APPROXIMATUS
*AQUITANICUS
**aquitaniensis*
aranea
*ARATUS
arenarius C & P F
ARGO
argyna
ASIANUS
*ASTROGUS
AUSTRALIENSIS
australis Q & G
AXICORNIS
BANKSII
*BASICINCTUS
*BATAVIANUS
? BENEDICTINUS
BITUBERCULATUS
*BONELLII
*BORNI
*BOURGEOISI
BOURGUIGNATI
BREVIFRONS
BRUNNEA
*BULLOCKI
calcitrapa Lamarck (1822)
*CALISMUS
CAPUCINA Röding
CARNEOLA
CASTANEUS
CERVICORNIS
CLAUSII
CNISSODUS
?**cognatus* Bellardi
COLPOS
*COMPACTUS Gabb
CORNUCERVI Röding
cornucervi Perry
? *cornudama*
*CORNURECTUS
CORNUTA
CORRUGATUS
CRASSIVARICOSA
CROCATUS
CYACANTHA
DAMICORNIS
*DENNANTI
DENUDATA Perry
**depressus* Gabor
**despectus* Michelotti
despectus Adams
DILECTUS
*DUJARDINI Tournouër
*DUJARDINOIDES
?*EGERENSIS
elongata Link
elongatus Lamarck
erithrostomus
ERYTHRAEUS
*EXAQUITANICUS
*EXGRANULOSA
*EXIMIUS Bellardi
EXTRANEUS
*EZGUS
FERRUGO
*FIATUS
FLAVICUNDA
*FLORIDANUS
FLORIFER
FOLIATUS Perry
*FOLIOSUS
FORTISPINA
FRONDOSA Perry
frondosus "Martini"
fuscus "Dunker"
fusiformis Röding
**grandis* D & D
GUBBI
HUTTONIAE
imbricatus H & M
IMMUNITUS
INCARNATA
inflatus Lamarck
INOPS
INSULARUM
JOUSSEAUMEI
*JUTTINGAE
*KARANGENSIS
KAWAMURAI
*KENDENGENSIS
*KOMITICUS
KURRANULLA
LACINIATUS
LACTUCA Röding
*LEPIDOTUS
LIGNARIUS Adams
LONGICORNIS
*LOPHOESSUS
MAURUS
MEGACERUS
mexicana Stearns
*MICHELOTTII Bellardi
MICROPHYLLUS
minor Euthyme
*MIOMUTICA
*MITOPICUS
monodon G. B. Sowerby I
MOQUINIANUS
MULTIFRONDOSUS
*MURANEA
?*NARICUS
*NOTATUS
NUBILIS
*NUDUS
*OBTUSUS Bellardi
OLIGOCANTHUS
*OVULATUS
PALMAROSAE
PALMIFERUS
PENCHINATI
POIRIERI
PONDEROSUS
*PSEUDOARATUS
PUDORICOLOR

PURPURATUS
QUADRIFRONS Lamarck
*_quadrifrons_ Grateloup
RAMOSUS — _TYPE_
*RAOULI
*RAULINI
RECTICORNIS
ROCHEBRUNI
rosana
ROSARIA Perry
ROSSITERI
RUBESCENS
RUBICUNDA Perry
RUBIGINOSUS
rudis Link
rufus Lamarck
*RUTTENI
SALLEANUS
SALTATRIX
SAULII
scabra "Martyn"
SCABROSUS G. B. Sowerby II
*SEDGWICHII
*_sexcostata_ Emmons
*SHIRLEYAE
sinensis Reeve
SPECTRUM
*SPINATUS
STEERIAE
STRIGATUS
*SUBERINACEUS
*SUBQUADRIFRONS
*SYNGENES
*TATEIWAI
TERRITUS
THOMASI
*TIMORENSIS
TIRONDUS
TORREFACTUS
*TOTOMIENSIS
TOUPIOLLEI
*TRIFRONS
*TRIGONALIS
TRIVIALIS
tubulatus
variegata "Martini"
*VENEZUELANUS
versicolor Gmelin
VIRGINEUS Röding

DERMOMUREX

ABYSSICOLA
*_acuticostatus_ W & H
adamsii Kobelt
ALABASTRUM
ALFREDENSIS
*ARLUS
*BISOTENSIS
*_cancellariiformis_
*CANCELLARIOIDES
CANTRAINEI
*COTTEAVI
?*CRASSILIRATUS
*DISTINCTUS
ELIZABETHAE
*ENGONATUS Dall
INDENTATA
*JANI
LEUCODERMA
MYRAKEENAE
OBELISCUS
PAUPERCULUS
PERPLEXA Keen
*QUILONICA
*RUTOGUS
scalariformis Locard
SCALARINUS Bivona _(type)_
SCALAROIDES — ? _TYPE_
*_subscalarioides_
*TENELLUS
*TRANSSYLVANICUS

FAVARTIA

*ALTA
ANGISTOMA
BALDWINIANA
BREVICULUS - _TYPE_
CASTUS
CELLULOSUS
CYCLOSTOMA
*_decussatus_ Grateloup
exiguus Reeve
foraminiferus
foveolatus Pease
gravidus Hinds
INCISUS
JAMAICENSIS
*KOSTEJANA
? MACULATUS Reeve
margaritensis Dall
MARJORIAE
? MORISAKII
? MUNDUS
NATALENSIS
NUCEUS
NUCULA Reeve
*_oblongus_ Grateloup
obtusus G. B. Sowerby III
PEASEI
*PEYROTI
?*_pulcher_ DeFrance
pumilis Adams
ROSEA Habe
SALMONEUS
solidus Adams
*SUBDECUSSATUS
*SUBOBLONGUS
SYKESI
TETRAGONUS Broderip

FLEXOPTERON

*CARCARENSIS
*CITIMUS Bellardi
*COLLATUS
*CORTAZARI
*DESHAYESII
*HOERNESI Speyer
*OCTONARIUS
*PERMAGNA
*PHILIPPINENSIS — _TYPE_
*_prisca_ Rutot
*VENTRICOSUS Hölzl

GRACILIMUREX

BAKERI — ? _TYPE_
bicolor Thiele _(type)_

HAUSTELLUM

? DENTIFER
DENUDATA Perry
erythrostoma Swainson
espinosus Macpherson
FALLAX
HAUSTELLUM — _TYPE_
HIRASEI
KURODAI Shikama
laeve

LONGICAUDUS
MULTIPLICATUS
scolopaceus Röding
? TENUIROSTRUM
TWEEDIANUS
?*WANNERI
WILSONI

HARMATIA

*STEPHANI — _TYPE_

HEXAPLEX

*ACULEATA Tate
adamsi G. B. Sowerby II
*AITUS
albicans Tryon
*ALCUS
*ALPICUS
*AMBERNUS
AMBIGUUS Reeve
*AMOENUS
*AMPURMUS
ANANUS
ANGULARIS
*_angulatus_ Meyer
*ARDJUNOI
*ARGEBUS
ARGISUS
ARPELLUS
*ARSIS
?*ASHIYAENSIS
ASPER Adams
ASPERA
ASPIRTUS
*AUSTRIACUS Tournouër
?*BEALI
BECKII Philippi
BIFASCIATUS
bonanni Monterosato
BUCCINOIDES
BULO
BURRYI
CALLIDINUS
*_campanii_ S & P
*CAMPUS
CANDIDUS Gmelin
*CAPELLINII
*CAPGRANDI
CAUDINUS
CICHOREUM — ? _TYPE_
*_citimus_ de Gregorio
*COLEI
*CONGLOBATUS
?*CONSTANTINENSIS
*COWLITZENSIS
*CRISPUS Lamarck
crispus Broderip
? CUSPIDATUS
DANILOI
*DANNEBERGI
*DENINGERI
DENSUS
DEPRESSOSPINOSUS
*DERTOBREVIS
DIAPHNUS
*DIDERRICHI
DILATATA
*DISPARATUS
?*DISTANS
*DUMOSUS
DUPLEX
*ELATIOR
*_elongata_ Stchepinsky
*ELTUS
endivia
*ENGONATUS Conrad
EPITUS
*ERCUS
*ESCIUS
*ESPLUS
*ESPUS
*ETHERINGTONI
EURYSTOMUS
falcatus D & S
FASCIATUS Gmelin
fasciatus Risso
FOLIACEA Perry _(type)_
*FORESTII
*FRAYSSEI
*FUCHSI
FULVESCENS
*GALIPPUS
GALLICA
*GAUDRYI
*GAVARDANENSIS
*GELERTUS
GIPUS
GONIOPHORUS
?*GOSPORTENSIS
*GOUETENSIS
?*GRAVIDUS Dujardin
GRINGUS
*GROOTI
*HAMULIFER
HIRSUTUS
*_hoernesi_ D'Ancona
HOPLITES
*IGHINAE
imperialis Schumacher
inornatus Adams
*INTERFUNATUS
*ISGILLUS
*JUNGHUHNI
*KATHERINAE
KUSTERIANUS
LACTUCA Röding
LEPIGUS
*_loescheri_
*LONGANENSIS
lyratus Adams
MAGNIFICA
*MARKSI
?*MARTILLACENSIS
*MEDIFOSSUS
melanoleuca
melonulus
?*_michelottii_ Noszky
minima Dautzenberg
*_minima_ Montanaro
*MIRISCUS
*MIXTA
multicrispatus
*NEOMAGENSIS
NIGREFASCIATUS
NIGRITA Philippi
nigrita "Meuschen"
nitidus Broderip
?*NOTOENSIS
OCTONUS G. B. Sowerby II
OVATA
pagodula Pallary
*PECCHIOLIANUS
*_pecchiolii_
*PENGHUENSIS
PERCUS
*PERPULCHER
*_plicatula_ Sacco
*PLIONODOSA
*PLIORECURVA
POLYGONULUS
PONDERATA
*PONTILEVIENSIS
PRINCEPS
*PRIPPUS
PROPECONGLOBATA
*PROTRUNCULOIDES
*PSEUDORUDIS
PUDICUS

PULTUS
?**pumilis* Fuchs
PUNCTUATA
PURPURESCENS
PURPURIFERA
radicula
RADIX
RAMULOSUS
*RITISUS
ROSARIUM Röding
roseotincta Dautzenberg
?*ROUAULTI
*RUDIS Borson
SAHARICUS
?*SARRONENSIS
SAXICOLA
SBIRSUS
SCABRA Link
*SEPTEMNARIUS
*SEPTEMVARICOSA
*SEXANGULUS Conrad
SEXCOSTATUS Lamarck
*SILVATICUS
**similis* Fuchs
*SOLDANII
?*SOLIDUS Anton
*SOPENAHENSIS
SOWERBIANUS
*SPICUS
spinicosta Valenciennes
**spinosa* Montanaro
spinosus Adams
STAINFORTHI
STRAUSI
STRIATUS Gmelin
*SUBASPERRIMUS
*SUBCONGLOBATUS
?*SUBEXIGUUS
*SUBTRUNCULUS
*SUPERNUS
*SYRTICUS
*TAPPARONII
TENUIS G. B. Sowerby II
*TERIGUS
TETRAGONA Stalio
*TEXANUS
*TEXTILIOSUS
TORTUUS
?*TRIDENTATUS
*TRUNCATULUS
*TRUNCULOIDES Pusch
**trunculoides* Doderlein
TRUNCULUS
turbinatus Lamarck
*TURONENSIS
*TURRITANA
*VANUXEMI
VARICISNODOSA
VARIUS
*VEATCHI Maury
**vindobonensis* Meznerics
*VOLZI
?*WHITNEYI
YOLDII
ZICUS

HOMALOCANTHA

*ALTAVILLAE
ANATOMICA
*ANTECEDENS
*ASTENSIS
*CLAVUS Michelotti
DIGITATUS
FAUROTI
FUSCA Perry
*HEPTAGONATUS
? KUROHARAI
LAMBERTI
MELANAMATHOS
OXYCANTHA
*PAULI Tournouër
PELE
*PLIOVARICOSA
ROTA
SCORPIO — *TYPE*
SECUNDUS
STEARNSI
*TALAHABENSIS
TENUIS Perry
tuberosa Röding
varicosus G. B. Sowerby II
ZAMBOI

MAXWELLIA

ANGERMEYERAE
*ELDRIDGEI
GEMMA — *TYPE*

MUREX *s.s.*

ACANTHODES
ACANTHOSTEPHES
ACULEATA Perry
ADUNCOSPINOSUS Beck
*ANNIAE
ANTELMEI
*ASPINATA
*BANTAMENSIS
*BELLEGLADEENSIS
BELLUS
*BENTARSARIENSIS
BLAKEANUS
*BONNETI
BREVISPINA
CABRITII
CARBONNIERI
CHRYSOSTOMA
CITRINUS
CONCINNUS Reeve
*CONVEXIOR
COPPINGERI
cracherodi
CRASSISPINA Lamarck
DELICATUS
*DJARIANENSIS
DONMOOREI
duplicatus Pusch
duplicatus "Chemnitz"
*EJECTUS
ELENENSIS
*EMBRYOLIRATUS
eximius Brazier
fasciata Perry
forskoehlii
funiculatus Reeve
gracilis Perry
*GUEMBELI
HEROS
histrix Röding
hystrix "Martini"
KIIENSIS
*LEBACANUS
LIVIDUS
**longispina* Noszky
MACGILLIVRAYI
maculatus Verrill
? MALABARICUS
MARCOENSIS
*MARGARITIFER
martinianus Reeve
MESSORIUS
MINDANAOENSIS

NIGRESCENS
NIGRISPINOSUS
NOBILE
OCCA
OLSSONI
*OOSTINGHI
PALLIDA Perry
PECTEN Lightfoot
pecten Montfort
*PENNAE
plicatus G. B. Sowerby II
*PSEUDOBRANDARIS Grateloup
*PYRENAICUS
*QUADRISPINOSA Depontaillier
rarispina
*_rectispina_
RECTIROSTRIS
RECURVIROSTRIS
RUBIDUM
RUFOLIRATA
SALLASI
*SAPLISI
SCOLOPAX
SENILIS
SOBRINUS
*SPINICOSTA Bronn
*SUBMUTICA
*SUTILIS
TENTACULA
tenuispina
TERNISPINA
*TESCHI
TRAPA
TRIBULUS Linné — _TYPE_
TRICORONIS
TRIREMIS
TROSCHELI
TRYONI
UNIDENTATUS
variegatum "Martini"
*VERBEEKI
WOODRINGI
*YOKOYAMAI

MUREXIELLA

*ABILUS
*ABSONUS
? AZAMI†
BALTEATUS
*_bartonensis_ Edwards
BOJADORENSIS
*_brevicanthos_
*_brocchii_ Cantraine
*_burnsi_ Whitfield
*CALHOUNENSIS
*CARIBUS
CIRROSUS
*COLLEGA
CONFUSA
*_conradi_ d'Orbigny
*CRISPANGULA
CROUCHI
DIOMEDAEUS
DIPSACUS
EXIGUUS Broderip
*FACETUS
fimbriatus Adams
*FRONDOSUS Lamarck
FUSCOFRONDOSA
*GISELAE
*GLYPTUS
*GRACEAE
HIDALGOI — _TYPE_
HUMILIS
*JUCUNDUS
KEENAE
LAPPA
*LARVAECOSTA
LAURAE
? LEPIDUS
LEVICULA
*MACGINTYI
*MANTELLI
*MARCHANDI
*MENEGHINII
MINISCULUS
? MULTISPINOSUS†
NORRISII
obtusus G. B. Sowerby II
octogonus G. B. Sowerby II
octonus Gray
PERITUS
*PETITI
PHANTOM
*PLIOASPIRATA
*PORULOSUS
?*PROTOCIRROSUS†
*PUNTAGORDANUM
*QUADRANGULARIS
RADICATUS
RADWINI
*_rudis_ Deshayes
RUFESCENS
rusticus Reeve
*SAGUS
SANCTAEHELENAE
SANTAROSANA
*SHILOHENSIS
sowerbyi Kobelt
*STUERI
*_subfrondosus_ Cossmann
*SUBHEPTAGONATUS
*SUBRUDIS d'Orbigny
*SYPHONOSTOMUS
TAENIATUS
TATEI
? TOKUBEII†
*VERACRUZANA
VITTATUS

MUREXSUL

?*ABBATIAE
? ANGASI Tryon
*ARDOCUS
?*AUVERSIENSIS
*BERNAYI
*BICONICUS
*BINODUS
BRAZIERI
*CAPISUS
*CEDILLATUS
?*CIPILLUS
?*CIRRATUS
*CLIFDENENSIS
CONATUS
CUVIERENSIS
*CZJZEKII
*DILUCIDUS
*DYSCRITUS
*ECHINOPHORUS
EDNAE
*ESPINOSUS Hutton
? _exiguus_ Kiener
?*EXPUNGANS
? _fimbriatus_ Lamarck
*FLEXUOSUS Deshayes
*FOLIACEUS Melleville
*_foliaceus_ Deshayes

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†These species probably should be placed in a new subgenus.

**formosus* Deshayes
*FRATERCULUS
?*HANTONIENSIS
JACQUELINAE
? KIENERI
? KURODAI N & H
? LAMINIFERUS
*LEONINUS
MARIAE
?*MEUNIERI
**multicostatus* Pecchioli
*NEOCOSTATUS
*NYSTI Rouault
?**obtusa* Montanaro
OCTOGONUS Q & G — *TYPE*
peruvianus G. B. Sowerby II
? PLANILIRATUS
*PLATEAUI
*PRAEGRESSUS
*PREGENITOR
*PRIONOTUS
*PROAVITUS
? PUNICEUS
? *scalaris* Adams
*SCOBINA
*SUBOCTOGONUS
?*SUBPLICATILIS
*THALMANNI
*TROCHISPIRA
? TUMIDA
UMBILICATUS T-W
ZONATA H & H

MURICOPSIS

aculeatus Wood
? *acuminatus* Anton
*ADELLUS
AMPUS
ANGOLENSIS
*AREOLIFER
ARMATUS Adams
*ASPINOSUS
ATERRIMA
atra
BERDICUS
bicolor Monterosato
BLAINVILLEI—*TYPE*
BOMBAYANUS
? BRACHYS
CALEDONICA
cataphractus G. B. Sowerby II
CINOSURUS
*CRASSICOSTA
*CRISTATUS Brocchi
?*DIARTI
dubius G. B. Sowerby II
*DUJARDINI Peyrot
?*ELATOSPIRA
*ELATUS
*EMUS
FORTIS
? FRUTICOSUS
gracilis Monterosato
hexagonus Lamarck
HISPIDA
*HOLUBICENSIS
HORRIDA Monterosato
INERMIS Philippi
**inermis* Dujardin
INFANS
iostomus Adams
JALISCOENSIS
?**lyelli* Mayer
MEDICAGO
minima Pallary
**multistriata* Koenen
muticus Philippi
NITENS
NODULIFERUS
OBLONGA Stalio
*OXYTATA
PAUXILLUS
*PEREGER Beyrich
PLICIFERUS Bivona
polliaeformis
porrectus Locard
*PRAEPAUXILLUS
radula Hedley
ROSEA Monterosato
*ROSTRALIS
rudis Risso
*SCABROSA Dall
spinosus Philippi
SPINULOSA Stalio
SQUAMULATA Carpenter
**stampiensis*
**subcarinata* Friedberg
*SUBFRONDOSUS d'Orbigny
SUBSPINOSUS Adams
**tauropliocenica*
?*TRITON
TROPHONIFORMIS Monterosato
UMBILICATA Coen
VIOLACEA
ZETEKI

NAQUETIA

AMANUENSIS
ANNANDALEI
BARCLAYI
cancellata Röding
CAPUCINA Röding
CAPUCINUS Lamarck
CUMINGII
FLEXUOSA Perry
JICKELII
PERMAESTUS
ROSEOTINCTUS G. B. Sowerby II
*SOLIDUS Shuto
*SONDEIANUS
TRIGONULUS Lamarck (1816)
trigonulus Lamarck (1822)
TRIQUETER — *TYPE*
variegata Röding
**williamsi* Sokolov

PANAMUREX

*ALAQUAENSIS
CARNICOLOR
*CLARKSVILLENSIS
**corniculatus*
*DUBITALIS
*FUSINOIDES
*GABBI
*GATUNENSIS — *TYPE*
*HEILPRINI
*HUTCHISONI
? INTERSERRATUS
*LACCAPOIA
*LYCHNIA
*MACNEILI
*MAURYAE
**muricina*
*PHAGON
**simplex* Aldrich
**spinulosa* Heilprin
*TURBINELLOIDES
VELERO

PAZIELLA

*ARGILLACEUS
*_armatus_ Geinitz
ATLANTIS
*ATURI
*ATURENSIS
*CONSTANTIAE
*_coronatus_ J. Sowerby
*DEPONTAILLIERI
*DOMINICENSIS
*EYREI
GALAPAGANUS
*GONIOSTOMUS
?*HACCONICUS
*HARRISI
*LEGRANDI
*LONDINI
*MERIDIONALIS
*_morulus_ Conrad
*_nanus_ Ravn
NUTTINGI
*OGORMANI
OREGONIA
*PARVOLIGUSTICA
PAZI — _TYPE_
*SEPTEMCOSTATUS
*SEPTIMA
*SPINULOSUS Deshayes
*SUBCORONATUS
*WERNERI

PAZINOTUS

*ATTONANS
*BOWDENENSIS
FALCATIFORMIS
FUNAFUTIENSIS
?*HORDEOLUS
?*REVOLUTUS
SMITHI Schepman
STIMPSONII Dall — _TYPE_
*TYPHIOIDES

PHYLLONOTUS

*ALDRICHI Gardner
asperrimus Lamarck
bicolor Valenciennes
BRASSICA
*DAVISI
DECORIS
*DORMANI
DUCALIS
ERYTHROSTOMUS Swainson
*FOLIDODES
*GARDNERAE Dall
*GLOBOSA Emmons
hippocastanum Philippi
imperialis Swainson _(type)_
*INFREQUENS
*LEONENSIS
MARGARITENSIS Abbott — _TYPE_
MEXICANUS Petit
*_migus_ de Gregorio (1890)
*MILLVILLENSIS
*MISSISSIPPIENSIS
OCULATUS
PERATUS
pomiformis
POMUM
*PYKNOS
REGIUS Swainson
regius S & W
RHODOCHEILUS
*RIPARIUS
*STETOPUS
*TINGARUS
TRICOLOR
*TRITONOPSIS
*TROPHONIFORMIS Heilprin

POIRIERIA

?*ACUTICOSTATUS Staadt
?*ALBIONIS
?*_angustus_ Edwards
*BENDEICA
*_bispinosa_ Beyrich
*CALCITRAPA Lamarck (1803)
*_calcitrapoides_
*CAMERUNENSIS
*CAPITO
CLENCHI
*_cristatus_ J. Sowerby
? ECHINUS
? GORGON
KOPUA
NOVAEZEELANDIAE
*PAUWELSII
*PENTAGONUS
*PRIMIGENA
*SUBCRISTATUS
*SUBLAEVIS Tate
*WOODSENSIS
ZELANDICUS — _TYPE_

PTEROCHELUS

ACANTHOPTERUS — _TYPE_
*ADELAIDENSIS
alatus G. B. Sowerby II
ANGASI Crosse
*ANGELUS
ARIOMUS
*AWAMOANUS
BIPUNCTATUS
*BISPINOSUS J. de C. Sowerby
*CAILLATI
CANALIFERUS
CORDISMEI
DUFFUSI
*ELEGANTULA
EOS
*EXTRINODOSUS
IREDALEI
*LIGNITUM
*MANUBRIATUS
MUREX
*OTWAYENSIS
PHILLIPSI
*POWELLI
*PURUENSIS
SAIBAIENSIS
*TENUICORNIS
*_tessellaris_
TRIFORMIS
*_trinodosus_ Tate
*ZEALANDICA
ZONATUS T-W

PTERYNOTUS

ALATA Röding — _TYPE_
? _alatus_ Fischer
? ALOCATUS†
*ARENARIA Steuer
*_asper_ Solander

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†These species probably should be placed in a new subgenus.

*ATHENASI
*BARATTUS
? BARCLAYANUS†
BEDNALLI
*_bellardii_ Nozsky
?*BICATENATUS
?*BICOSTATUS
*_bifrons_ Tate
BIPINNATUS
*BRANDEROPSIS
*BREVICAUDA
*BREVISPIRATA
*BURNSII Aldrich
BUSHAE
*CALVUS
clavus Kiener
*CONTABULATUS
*_crassispina_ Fuchs
*CRENULATA
*DAGUINI
*DEFENSUS
*DELAUNAYI
*DENTICULATUS
*_denudatus_ Deshayes
*DEPRESSUS Grateloup
*DETRITUS
*DIDYMUS
*_distortus_ Deshayes
DRACO
ELONGATUS Lightfoot
*ESPITUS
*EXCISUS
EXPANSUS
?*FASCISTRIA†
? _fenestella_†
? _fenestratus_†
*FILIGRANA
*_filigranosus_
*_fimbriatus_ Swainson
*FLEMINGI
*FORNISETAE
*FUSOIDES
*GAASENSIS
*GANTENSIS
*GRANDIS Edwards
*_grandispinosa_
*_granulifer_ C & P
*GRANULIFERUS Grateloup
HAVANENSIS
*HOERLEI
*HOLOCRISTATUS
?*JOGJACARTENSIS
*KAIPARAENSIS
*LAETIFICUS
?*LAMARCKI
LAQUEATUS
*LATIFOLIUS
LEUCAS
? LIENARDI†
*LOBATUS
LOEBBECKEI
*LONGUS
? MARTINETANA†
martinianus Pfeiffer
*MATTHEWSENSIS
*MAYERI
*MEMBRANACEUS
*MICROPTERUS
*NEWTONI
*_nodosus_ Steuer
*ORNATUS Grateloup
*PACKARDI Dickerson
*PALENSIS
?*PARVULMICROPTERUS
PATAGIATUS
PELLUCIDUS
*_perfoliatus_
*PERLONGUS
*PEYREIRENSIS
PHANEUS
PHYLLOPTERUS
pinnatus Swainson (_type_)
*PLICATOCARINATUS
*POSTII
*PROPEPOSTI
*PSEUDERINACEUS
*PSEUDOLAMARCKI
*PSEUDOPHYLLOPTERUS
pygmaeus Bush
?*_regularis_ Anton
*REMBANGENSIS
*RHYSUS Tate
*RIGIDUS
*ROVASENDAE
RUBRIDENTATUS
?*RUFIRUPICOLUS
*RUTOTI
*SAARETENSIS
*SABINOLA
*_sandbergeri_ Koenen
?*SCORPIONIUS
?*SINDIENSIS
*STENZELI
*STOPPANI
*SUBCONTABULATUS
*SUBDISTORTUS
*SUBSPINICOSTA
*SUBTRICARINATUS
*_subtricarinoides_
*SWAINSONII
*TENUISPIRA
*TORREARSAE
*_trialatus_ Koenen
*_tricarinatus_
*TRICARINOIDES
*TRICUSPIDATUS
?*TRIFASCIALIS
*_trigonus_ Rouault
*TRINODOSUS Bellardi
*TRIPTEROIDES
TRIPTERUS
tristichus Dall
*TURANGULICUS
*VALDINTORTUS
*_veatchi_ Palmer
*VELIFICUS
*VENUSTUS
*VENZOI
VESPERTILIO Kuroda
*WAIAREKA
*WALLACEI
*WEISBORDI

PURPURELLUS

*AMPISTUS
*BELLARDII Seguenza
cristatus Wood
*CYCLOPTERUS
GAMBIENSIS — _TYPE_
*GASTALDII
*INEZANA
*LATILABRIS
MACLEANI
OSSEUS
PINNIGER
? QUINQUELOBATUS
*REPETITI
TRIGONULARIS
*VERANYI

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†These species probably should be placed in a new subgenus.

SIRATUS

- AGUAYOI
- ALABASTER
- ANTILLARUM Hinds
- **antillarum* Gabb
- ARTICULATUS
- BEAUII
- BRANCHI
- BRASILENSIS
- BRISKASI'I
- CAILLETI
- *calcar* Kiener
- *carioca*
- *CHIPOLANA
- CIBONEY
- CONSUELA
- *costatus* Gmelin
- *DASUS
- *DENEGATUS
- *DOMINGENSIS
- *elegans* Beck
- FINLAYI
- FORMOSUS Sowerby
- ? GALLINAGO
- **gardnerae* Vokes
- *GILLI
- GUNDLACHI
- *JULIAGARDNERAE
- KUGLERI
- MOTACILLA
- *NICHOLSI
- *nodatus* Reeve
- PERCOIDES
- PERELEGANS
- PLICIFEROIDES
- *pliciferus* G. B. Sowerby II
- *POLYNEMATICUS
- PROPINQUUS K & A
- *pulcher* Adams
- *QUIROSENSIS
- REEVEI
- SENEGALENSIS — *TYPE*
- ? SERRATOSPINOSUS
- *similis* G. B. Sowerby II
- *sirat*
- SPRINGERI
- SUPERBUS
- TENUIVARICOSUS
- THOMPSONI
- *TOREIA
- **triangularis* Jung
- *trilineatus* Reeve
- ?*WILLIAMSI Maury
- *YAQUENSIS

SUBPTERYNOTUS

- EXQUISITUS
- *GRANIFERUS
- *PIRLUS de Gregorio
- *SUBGRANIFER
- *TEXTILIS — *TYPE*

TAKIA

- *ASTERISCUS
- *GILLETTEORUM
- *inermis* G. B. Sowerby II — *TYPE*
- *PACHYSTIRUS
- *SEXANGULA Dall

OCENEBRINAE — SYSTEMATIC LIST

Species marked "(M)" are listed in Muricinae catalogue, unmarked species are in Ocenebrinae catalogue.

CALCITRAPESSA

- LEEANUS (M) — *TYPE*
- *SCALARIFORMIS Nyst (M)

CERATOSTOMA

- ACICULIGER (M)
- *alata* Schumacher
- ALBESCENS
- ALBOFASCIATA
- **austriacus* H & A (M)
- BURNETTII (M)
- COREANICUS (M)
- *DELORAE
- *DRYAS
- *emarginatus* G. B. Sowerby II (M)
- FOLIATUS Gmelin (M)
- FOURNIERI (M)
- *GENEI (M)
- GOULDI (M)
- *KELLUMI (M)
- *MAKIYAMAI
- MONACHUS (M)
- MONOCEROS G. B. Sowerby II (M)
- *monodon* Eschscholtz (M)
- *NANNA
- NUTTALLI (M) — *TYPE*
- *PAUCIVARICATA (M)
- *PECKI
- *PERANGULATUS (M)
- *PERPONDEROSA
- PINNATA Perry (M)
- RORIFLUUS (M)
- *TURRIS
- UNICORNIS (M)

HADRIANIA

- *BIFIDUS (M)
- *BOPIRUS (M)
- **brocchii* Monterosato (M)
- CARINATELLA
- *CATOSUS (M)
- *COSGUS (M)
- **craticulatus* Brocchi (M) (*type*)
- *CRATICULOIDES — *TYPE*
- *DELICATULA

- *_elingus_ (M)
- *_erpis_ (M)
- *EVANESCENS
- *FALUNICA
- *FONTANNESI (M)
- *FUNICULOSUS (M)
- ?*_fusulus_ A & B (M)
- *IPIMUS (M)
- *MIOINCRASSATA (M)
- *ORETEUS (M)
- *_ornata_ Bongo (M)
- *PERISUS (M)
- *PLIOCARINATA (M)
- *PLIOCOSTULATA (M)
- *PLIOSUBASUTURATA (M)
- *PROPETIPUS (M)
- *_restitutiana_ (M)
- *RESTITUTENSIS (M)
- ?*ROCHETUS (M)
- *SENENSIS (M)
- *STRICUS (M)
- ?*SUBSPINOSA
- *TRISUS (M)
- *_vindobonica_

JATON

- DECUSSATUS Gmelin (M) — _TYPE_
- _gibbosus_ Lamarck (M)
- HEMITRIPTERUS (M)
- JATONUS (M)
- _lingua_ (M)
- _linguavervecina_ (M)
- _truncata_ Röding (M)

MIOCENEBRA

- *SILVERDALENSE — _TYPE_

OCENEBRA _s.s._

- ? AEDICULARUM
- *ABITUS (M)
- ALPHA
- ?*ALTERNICOSTA (M)
- ?*_ambiguus_ Michelotti (M)
- AMIRRUS (M)
- *ANDINUS (M)
- *ANELLII
- *APISMUS (M)
- *_ariesiana_ (M)
- *ARIESENSIS (M)
- ?*ASANOI (M)
- *ASGORUS (M)
- *ASIPUS (M)
- *ATROPURPUREA
- *AXIPUS (M)
- BARBARENSIS (M)
- *BARCINONENSIS (M)
- *BEAUMONTII (M)
- *BENDRILLUS (M)
- BENISAFIENSIS
- *BENOISTI
- BETA
- *BICRISTATUS Risso (M)
- *BOECKHI (M)
- CALIGINOSUS (M)
- CANDIDA
- *CAPUGUS (M)
- CARNEOLA
- CAVERNOSA
- *CHERPUS (M)
- *CHICOANA
- ? CHICOROIDES
- *CHISUS (M)
- *CHITIGUS (M)
- CINGULIFERUS (M)
- *CLARKI
- _clathrata_ Dall
- _clathrata_ Coen
- COGENER (M)
- ?*COMPLICATUS (M)
- *_concinna_ Nomland (M)
- CONSPERSA (M)
- *CORYPHAENA
- *COSTELLATA
- _crassus_ Adams (M)
- CRISPATISSIMA
- *CURVICOSTA (M)
- ?*DAINITIENSIS
- _depauperata_ Dautzenberg (M)
- *DEPOENSIS
- *DERITUS (M)
- DOLLFUSI (M)
- *DUFRENOYI (M)
- ? EMIPOWLUSI†
- ENDERMONIS (M)
- EPIPHANEA
- ERINACEUS (M) — _TYPE_
- *EXOLETUS (M)
- _fasciata_ Dautzenberg (M)
- _fasciatus_ G. B. Sowerby II (M)
- *FESTIVOIDEA
- FLAVIDUS (M)
- ? FLEXIROSTRIS (M)
- FONTAINEI (M)
- FOVEOLATUS Hinds (M)
- FRASERI
- *FRIEDBERGI
- _fusca_ Dautzenberg (M)
- FUSCONOTATA
- GRACILLIMA
- *GRATELOUPI (M)
- *GUTUS (M)
- HANLEYI (M)
- ? HERMANNI (M)
- HUMILIS
- _imbricatus_ Chiereghini (M)
- INCOMPTUS
- INERMICOSTA
- INORNATUS Récluz (M)
- INTERFOSSA
- *_intermedia_ I & P (M)
- *IVOLASI (M)
- JAPONICUS (M)
- *JORGENSIS
- KEENAE
- *KEEPI
- *KUSCERI
- ?*LACUSTRIS
- LAMPUSIOPSIS
- *LARVATUS (M)
- *LASSAIGNEI
- *LIGERIANA (M)
- *_ligeriensis_ (M)
- LUGUBRIS (M)
- *LUMARIA
- MAJOR Dautzenberg

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†These species probably should be placed in a new subgenus.

MELANOSTOMA (M)
? MERCAENSIS
?*MICROMERIS (M)†
*MILICENTANA
*MIRMIGUS (M)
? MINIROSEA†
minor Pallary (1900)
minor Dall
monoceros d'Orbigny (M)
MUNDA
MUTICA D & D
OBESA
*OCCIDENTALIS (M)
ORBIGIANUS (M)
*ORGELLUS (M)
?*_packardi_ Clark (M)
PAINEI (M)
*PENTAEDRICA
*PERPLEXUS F & T (M)
*PICHISUS (M)
? PIROTECTUS (M)
*_pitorus_ de Gregorio (M)
*PLEURICOSTULATA
*PLIOELATA (M)
*PLIOSCALARATA (M)
*PLIOSUBOBTUSA (M)
*PLIOPERVARICOSA (M)
*POLYMORPHUS (M)
PRODUCTA D & D
PUSTULATA Locard
*_pustulatus_ Bellardi (M)
*QUADRULUS
? REJECTA
REQUIENI
?*RODEOENSIS (M)
rotunda Coen
rusticus Jousseaume (M)
*SACCOI
*SACYI
SCULPTA Jeffreys (M)
SEFTONI
?*SELBYENSIS (M)
SENEGALLA (M)
*SIDILLUS (M)
*SOWERBYI Michelotti (M)
SQUAMILIFER
*STAZZANENSIS (M)
STEARNSI
*STRIAEFORMIS (M)
STRIATISSIMUS (M)
*SUBARIESIANA
*SUBCARINATUS Lamarck (M)
*_sublaevis_ Schaffer (M)
TALIENWHANENSIS (M)
TARENTINUS (M)
*TEMALENTUS (M)
*TENUISCULPTUS
*TETHYS (M)
THERSITES
*THILENSIS
?*TIGANOURANA (M)
*TOPANGENSIS
TOROSUS (M)
TRACHEIA
TRIQUETRA Risso (M)
triquetra Coen
UNGULATUS (M)
VENETIANA
*VENUPILLUS (M)
VIRIDITINCTA
*VINDOBONENSIS Hörnes (M)
*ZBOROVIENSIS

OCINEBRELLUS

ACANTHOPHORUS Adams (M)
ADUNCUS G. B. Sowerby II (M)
? CORONATUS Adams (M)
endermonensis (M)
EURYPTERON (M) (_type_)
FALCATUS G. B. Sowerby II (M) — ? _TYPE_
*HAIDINGERI (M)
*PROTOADUNCA
*SPECTATA
UNIFASCIATUS (M)

OCINEBRINA

acanthophorus Monterosato (M)
ACICULATUS (M) — ? _TYPE_
*ACUTICOSTATUS Gümbel (M)
albina
ALPUS (M)
*ARNAUDI (M)
*AVITENSIS
*_badensis_ H & A (M)
BADIUS (M)
BAETICUS (M)
*BASTEROTI (M)
?*BAUDONI (M)
*BICAUDATUS Borson (M)
*BILLUS (M)
*BREVIOR
*_caelatus_
?*CAPERATUS (M)
*CAPITOFORMIS
*CAPOLUS (M)
*CARVALHOI (M)
CASSIDULA
*CAZEAUXI
*CESTASENSIS
CINCTA
CINGULIFERA
*COELATUS
*COLORATUS
*CONCERPTUS (M)
*CONDIGUS (M)
*CONFLUENS (M)
*_conspicuus_ Braun (M)
*CONVEXUS (M)
coralligena (M)
CORALLINUS (M) (_type_)

---

†These species probably should be placed in a new subgenus.

*CRASSILABIATUS (M)
*CREDNERI (M)
curta Monterosato (M)
CYCLOPUS
?*_dentatus_ Brown (M)
*DUBUISSONI (M)
*DUVERGIERI
EDWARDSI
*ELECTUS (M)
*_elingus_ (M)
elongata Monterosato (M)
*ERGNAPUS (M)
erroneus (M)
*EXCOELATA
FASCIATA
*FILOSUS (M)
*FORESTI
?*FUSICAELATUS (M)
? FUSIFORMIS Gmelin (M)
*GALICIANUS (M)
*GIBBOVARICOSA
?*GIRUS (M)
*GRACIENSIS (M)
?*_granulata_ A & B (M)
?*GRATELOUPI
*GRUNDENSIS (M)
HELLERI
hellerianus
HISPIDULA
*HOERNESI
? HYBRIDUS (M)
*IMBRICATOIDES (M)
*IMBRICATUS Brocchi (M)
INCONSPICUUS (M)
?*INFLATA
INGLORIUS (M)
*IRREGULARIS Bellardi (M)
labiosus Chiereghini (M)
*LAPILLOIDES (M)
*_lavatus_ (M)
MACULATA Pallary
major Pallary (1900)
major Pallary (1906)
*MENEGHINIANUS (M)
*MERIGNACENSIS
?*MIGARUS (M)
?*MIGUS de Gregorio (1885) (M)
? _minima_
MINOR Monterosato (M)
*_minor_ A & B (M)
? _minor_ Pallary (1906)
minor Pallary (1920)
MISCOWICKI
MUTICA Pallary
NICOLAI
nucalis (M)
? _nucula_ Monterosato (M)
NUX
*OBBA
*OCCITANICA
*ORIENTALIS
*PAPIOLENSIS (M)
*PATULUS (M)
*PAUCICOSTATA
*PEDEMONTANA
*PENTODON (M)
pereger Brugnone (M)
PERIGMUS (M)
PERILUS (M)
*_pernutus_ (M)
*PETICUS (M)
? PETTARDI
*PIMUS de Gregorio (M)
*_pimus_ de Gregorio (M)
*PIRMUSUS (M)
PISTACHIA (M)
*POELMANNI (M)
*PRODUCTUS Bellardi (M)
*PSEUDOCINGULATA (M)
? _pumilis_ Küster (M)
? PURPUROIDEA
?*QUINQUEDENTATUS
*RENIERI
?*_reticulatus_ DeFrance (M)
?*RHOMBUS
RUBRA
?*_rusticus_ DeFrance (M)
*SANDBERGERI Hörnes (M)
*_scalariformis_ Bellardi (M)
*SCALARIS Brocchi (M)
SCALATA
*SCHOENNI (M)
SEMICLAUSUS (M)
*SIGUS (M)
*SPIRALATA (M)
*STRIATUM
SUBACICULATUS (M)
*SUBACINGULATA (M)
*SUBLASSAIGNEI
*SUBLAVATUS (M)
*SUBSCALARIS
? SUGA
*TAURELONGATA (M)
*TRANSITORIA (M)
*TRANSVERSALIS (M)
*TRIVARICOSA
*TURBINEUS (M)
*UMBILICINA
*_ventricosus_ Hörnes (M)
*_vindobonica_
VIRIDIS (M)
WARDIANA
WEINKAUFFIANUS (M)
*WOODI (M)

POROPTERON

CAPENSIS (M)
GRAAGAE
mitriformis G. B. Sowerby II (M)
UNCINARIUS (M) — _TYPE_

PTEROPURPURA

*AGUILARI (M)
alba Berry (M)
*ARRAKANENSIS (M)
BEQUAERTI (M)
*_borealis_ Kautsky (M)
BRACHYPTERON (M)
CALIFORNICUS (M)
CARPENTERI (M)
CENTRIFUGA (M)
*CONSOBRINUS (M)

? DEARMATUS (M)
DEROYANA
*DELBOSIANUS (M)
*ELONGATA
ERINACEOIDES (M)
ESYCHUS (M)
FESTIVUS (M)
*FRIEDBERGI (M)
GAZA (M)
MACROPTERUS (M) — *TYPE*
*MARKSI
MODESTA
*MUREXFERRUS (M)
*PERVARICOSA
PETRI (M)
PLORATOR (M)
rhyssus Dall (M)
*SNAPI (M)
SPECIOSUS (M)
STIMPSONI Adams (M)
SWANSONI (M)
*TETRANGULATA
TREMPERI (M)
TRIALATUS G. B. Sowerby II (M)
*VIRGINIAE (M)
VOKESAE

PTERORYTIS

*BARBITOIDES
*_conradi_ Dall (M)
*CONRADIANA
*FLUVIANA
HAMATUS (M)
*MARSHALLI
*SEMINOLA
*UMBRIFER (M) — *TYPE*

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FOSSIL MOLLUSKS FROM CARRIACOU, WEST INDIES

By

PETER JUNG

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FOSSIL MOLLUSKS FROM CARRIACOU, WEST INDIES

PETER JUNG
Naturhistorisches Museum, Basel, Switzerland

ABSTRACT

The fossil mollusks occurring in the marine sediments of the island of Carriacou are listed and described. Two new genera are proposed *(Caritoma, Sphaerocina)*, and two species of pelecypods and 22 species of gastropods are described as new. Assemblages belonging to four different stratigraphic units are distinguished. In the order of increasing age these units are (number of species present and age in brackets): 1. Grand Bay Formation (109 species; early middle Miocene. 2. Carriacou Formation (19 species; late early Miocene). 3. Kendace Calcareous Silt member of Belmont Formation (53 species; late early Miocene). 4. Undifferentiated Belmont Formation (16 species; early Miocene).

The pteropod fauna of the Kendace Calcareous Silt Member of the Belmont Formation consists of 14 different species. It can be correlated with the pteropod fauna of the Ste. Croix Beds of the Brasso Formation of Trinidad. It is associated with genera indicating a deep-water environment, whereas the assemblages of the other units suggest a shallow water to a moderately deep water environment.

INTRODUCTION

Carriacou is one of the islands of the Grenadines in the eastern Caribbean and is situated about 30 kilometers northeast of Grenada. The present report is based on a visit to Carriacou from March 24 to April 8, 1969. The field work was carried out in cooperation with E. Robinson, Dept. of Geology, University of the West Indies, Jamaica. An account on the stratigraphy of Carriacou is being published elsewhere (Robinson and Jung, in press). The mollusk bearing stratigraphic units as defined in that paper are as follows (from top to bottom):

Grand Bay Formation
Carriacou Formation
Belmont Formation
including Kendace Calcareous Silt Member at the top

The state of preservation of many of the mollusks obtained from these units is poor, a circumstance which often allowed only a generic identification. In addition to the material collected in 1969, the collections made by K. W. Earle, C. T. Trechmann, and E. Lehner were studied. The Earle and Trechmann collections are housed at the British Museum (Natural History), the others at the Naturhistorisches Museum Basel, Switzerland.

Earle Collection. — The first collection of fossils from Carriacou was made by K. W. Earle in 1924. It is a small collection consisting of six specimens only. Three of them are fragments of large oysters from Dumfries Point (see Text-figure 1 for location). The remaining three represent a pectinid, a species of *Conus,* and an unidentifiable gastropod, all of which were collected from an unspecified horizon at Kendace Point.

Trechmann Collection. — In April 1934 C. T. Trechmann spent several days in Carriacou collecting fossils mainly at Grand Bay cliff, Tarlton's Point, and Point St. Hilaire (see Text-figure 1 for location). In a report on his collection, published in 1935, he distinguished three molluscan assemblages from the following horizons: the Carriacou Limestone at the bottom (two species), the Grand Bay Beds in the middle (42 species), and the beds of Tarlton's Point and Point St. Hilaire at the top (16 species). The two species from his Carriacou Limestone are *Ostrea* cf. *gatunensis aguaclarensis* H. Hodson and *Nodipecten* cf. *colinensis* F. Hodson and H. Hodson. He obtained the oyster at Dumfries Point, the *Nodipecten* at Bretache Point, and, therefore, they belong to two different levels as here understood: the large oyster to a limestone lens within the undifferentiated Belmont Formation; the *Nodipecten* to the Carriacou Formation. On the other hand Trechmann's fossils from Grand Bay cliff, Tarlton's Point, and Point St. Hilaire are here all assigned to the Grand Bay Formation. A number of specimens figured by Trechmann (especially turrids) are too poorly preserved and too incomplete for positive identification. Because there is no better material of these forms in later collections, they are not redescribed in this report. Apparently Trechmann did not see any outcrop of the pteropod horizon which is here referred to the Kendace Calcareous Silt Member of the Belmont Formation.

Lehner Collection. — When carrying out an official survey for water supply E. Lehner spent the first two weeks of March 1935 in Carriacou. During this stay he collected fossils from several localities, but he obviously did not visit Grand Bay cliff, the richest locality. He mainly collected from the pteropod horizon in the Belvedere area, which he placed into his Lower Tuff Series, and from the beds at Point St. Hilaire and Tarlton's Point, which he referred to his Upper Tuff Series in a report published in 1935.

The field work carried out in 1969 was made possible through grants from Dr. H. G. Kugler (Naturhistorisches Museum Basel) and the University of the West Indies which are gratefully acknowledged. I am also indebted to Dr. J. W. Wells of Cornell

University, Ithaca, New York, for the identification of, and comments on, the fossil corals from Carriacou. The drawings of the pteropods are the work of Mr. O. Garraux, Basel.

LOCALITY DATA

Although large parts of the island of Carriacou are covered by scarce vegetation only, inland outcrop conditions are poor with the exception of a few road-cuts, *e.g.* between Mount Royal and Top Hill, along the Hillsborough — Top Hill road, and in the Belvedere area. By far the best outcrops are found along the coast. Superb sections are exposed at Dumfries Point, Bretache Point, Kendace Point, and north of Tarlton's Point and Point St. Hilaire.

The richest fossil locality was found at Grand Bay cliff: Naturhistorisches Museum Basel (= NMB) locality 10710. All the 69 species of mollusks from this locality were collected from a graded unit not thicker than 1.5 meters. Trechmann obtained the majority of the fossils he described in 1935 from the same bed.

Localities from which mollusks have been collected in 1969 are plotted in Text-figure 1. Also included are the four localities from which Lehner collected mollusks in 1935. These are NMB localities 10108 (= EL 1625) which is the same as 10699, 10109 (= EL 1701), 10110 (= EL 1703), and 10111 (= EL 1747).

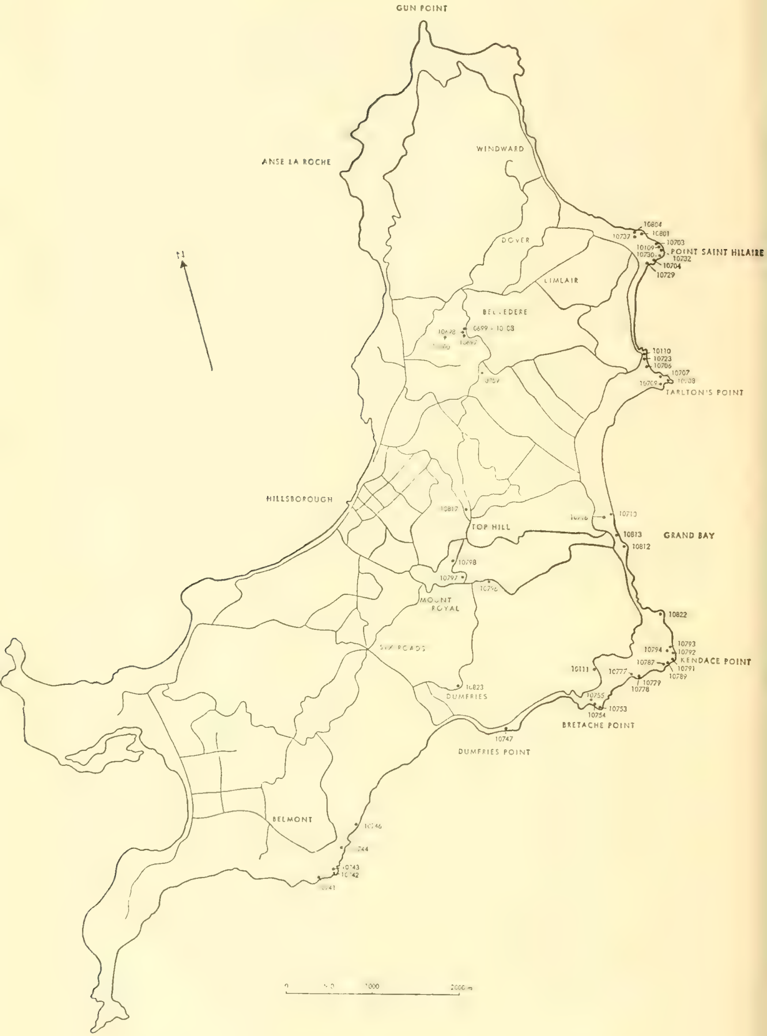
COMPOSITION OF THE FAUNAS

In the sedimentary sequence of Carriacou, six different molluscan assemblages can be recognized. They occur in the following stratigraphic units (from top to bottom):

6. Tuffaceous facies of Grand Bay Formation
5. Sandy facies of Grand Bay Formation
4. Carriacou Formation
3. Kendace Calcareous Silt Member of Belmont Formation
2. Limestone lenses in undifferentiated Belmont Formation
1. Undifferentiated Belmont Formation

1. *Undifferentiated Belmont Formation.* — The following faunules have been obtained from this unit:

NMB locality 10700:	*Argopecten* sp.
NMB locality 10741:	*Glycymeris* sp.
	Pteria cf. *inornata* (Gabb)
	Trachycardium sp.
	Bulla sp.


GUN POINT
WINDWARD
ANSE LA ROCHE
N
DOVER
LIMLAIR
BELVEDERE
10698
0699 - 10 08
10697
10804
10801
10737
10703
10109
10730
POINT SAINT HILAIRE
10732
10704
10729
10110
10723
10706
10707
10709
TARLTON'S POINT
HILLSBOROUGH
10817
TOP HILL
10710
10813
10812
GRAND BAY
10798
10797
10796
MOUNT ROYAL
SIX ROADS
10822
10793
10794
10792
KENDACE POINT
10787
10791
10789
10111
10777
10779
10778
10823
DUMFRIES
10755
10753
10754
BRETACHE POINT
10747
DUMFRIES POINT
BELMONT
10746
744
10743
10742
0
1000
2000 m

Text-figure 1. Map of Carriacou showing roads and mollusk localities.

Table 1. Mollusks from Kendace Calcareous Silt Member of Belmont Formation.

	south coast								Hillsborough-Top Hill road	Belvedere area					northwest of Point St. Hilaire		
	10753	10754	10778	10779	10789	10792	10793	10794	10817	10108	10697	10698	10699	10759	10737	10801	10804
Cadulus sp.									●				●				
Limopsis grenadinarum Jung	●		●	●						●			●				
Limopsis ? sp.														●			
Pteria ? sp.											●						
Lyropecten (Nodipecten) species								●									
Propeamussium (Parvamussium ?) sp.				●									●	●			
Acesta (Acesta) goajira Olsson and Richards ?						●											
Condylocardia sp.									●								
Abra sp.	●																
Turricula ? **kendacensis** Jung					●					?			●				
Calliostoma ? aff. **tarltonense** Jung													●				
Calliostoma ?										●							
Scalina kendacensis Jung					●		●										
Hipponix ? sp.												●					
Architectonica (Architectonica) nobilis karsteni Rutsch										●							
Crucibulum sp.													●				
Xenophora cf. **delecta** (Guppy)													●				
Pustularia (Pustularia) caribaea Schilder										●							
Trivia cf. **islahispaniolae** Maury															●		
Protatlanta species	●			●									●		●		
Carinaria species										●							
Natica (Naticarius) sp.										●			●				
Polinices prolacteus Anderson ?					●					●		●	●				
Sinum ? sp.													●				
Bathygalea (Miogalea) famulans Jung					●												
Bathygalea sp.													●				
Distorsio (Rhysema) cf. **decussata gatunensis** Toula					●												
Ficus carriacouensis Trechmann ?										●		●	●				
Cymatophos cf. **glareosus** Jung					●	●				●		●	●				
Metula sp.					●				?				●				
Ancilla (Eburna) sp.					●	●											
Jaspidella ? sp.										●		●	●				
Mitra sp					●							●					
Polystira sp	●				●			●									
Paraborsonia sp.			●		●												
Crassispira sp.					●												
Conus sp.	●				●			●		●		●	●				
Strioterebrum sp.	●		●					●									
Bulla sp.	●																
Vaginella grenadinarum Jung	●								●	●		●	●				
Vaginella cf. **depressa** Daudin	●		●	●		●				●			●		●		
Vaginella aff. **undulata** (Gabb)		●	●	●	●			●		●			●		●		●
Vaginella species A	●		●	●					●	●			●				
Vaginella sp.	●			●					●					●			
Styliola sulcifera Gabb	●			●													
Clio kendacensis Jung	●		●	●	●					●			●		●	●	●
Clio cf. **pulcherrima** (Mayer)			●		●												
Clio cf. **pedemontana** (Mayer)			●														
Clio sp.	●		●						●								
Cavolina pycna Jung	●			●					●	●			●		●		
Cavolina cf. **vendryesiana** (Guppy)	●																
Cavolina regulae Jung	●		●	●	●										●		●
Sphaerocina formae (Audenino)				●					●	●		●	●				
Aturia cubaensis (Lea) ?							●										

NMB locality 10742:	*Spondylus* sp. ind.
	Ostrea sp.
NMB locality 10743:	*Ostrea* sp.
	Nerita ? sp.
	Nerita (subgenus ?) species A
	Paraborsonia cf. *varicosa* (G. B. Sowerby II)
	Conus sp.
NMB locality 10744:	*Ostrea* (subgenus ?) aff. *antiguensis* Brown
	Cymatium sp.
	Terebra (Myurellina ?) sp.
NMB locality 10746:	*Lyropecten (Nodipecten)* species
NMB locality 10791:	*Lyropecten (Nodipecten)* species
	Ostrea sp.
	Trochita cf. *radians* (Lamarck)

This makes a total of 16 species for this unit. All but localities 10700 and 10791 are situated on the coast SSE of Belmont Village. The specimens of *Argopecten* (locality 10700) were collected in the Belvedere area. Stratigraphically this locality is situated about 30 meters below the pteropod horizon of locality 10699. The fossils from locality 10791 were obtained at the tip of Kendace Point, *i.e.* just below the conformable contact with the Kendace Calcareous Silt Member of the Belmont Formation. Therefore, localities 10700 and 10791 are probably stratigraphically above the limestone lens in the undifferentiated Belmont Formation mentioned below.

2. *Limestone lens in undifferentiated Belmont Formation.* — This refers to a section through 23 meters of limestone exposed at Dumfries Point (locality 10747). The lower part of this limestone is crowded with a large species of oyster which has been identified as *Ostrea* cf. *paraguanensis* F. Hodson.

3. *Kendace Calcareous Silt Member of Belmont Formation.* — This unit has yielded 53 species of mollusks. It is characterised by the occurrence of abundant pteropods. With the exception of a few specimens in the Grand Bay Formation, pteropods have been found only in the Kendace Member. The pteropod horizon is exposed in four different areas: on the south coast, along the Hillsborough — Top Hill road, in the Belvedere area, and northwest of Point Saint Hilaire. The faunas of the different localities are listed in Table 1.

The fossils from localities 10754 and 10778 were collected from the lower part of the Carriacou Formation. The species from the Kendace Member listed from these localities in Table 1 have been reworked into the lower part of the Carriacou Formation. They were attached to small blocks of the lithology of the Kendace Member.

4. *Carriacou Formation.* — The Carriacou Formation has yielded only a few faunules, including a total of 19 species. Most of the specimens are poorly preserved, however. As mentioned above the faunas from localities 10754 and 10778 contain a number of species which have been reworked from the Kendace Calcareous Silt Member of the Belmont Formation. They are not listed below but in Table 1.

NMB locality 10754:	*Lyropecten (Nodipecten)* species
	Vermetus ? sp.
	Xenophora ? sp.
	Sthenorytis ? sp.
	Ficus sp.
	Strioterebrum sp.
NMB locality 10755:	*Argopecten ?* sp.
	Ostrea sp.
	Lithophaga sp.
NMB locality 10777:	*Xenophora ?* sp.
	Sthenorytis sp.
NMB locality 10778:	*Scalina* cf. *kendacensis* Jung
	Cirsotrema (Cirsotremopsis) cf. *tamanense* (Maury)
	Sthenorytis grenadinarum Jung
NMB locality 10787:	*Chlamys* species
	Oocorys ? sp.
	Conus sp.
NMB locality 10798:	*Glycymeris* cf. *secticostata* Nicol
	Ostrea sp.
	Caryocorbula sp.
	Polystira sp.
NMB locality 10822:	*Ostrea* cf. *paraguanensis* F. Hodson
NMB locality 10823:	*Ostrea* cf. *paraguanensis* F. Hodson

Locality 10823 is situated northwest of Dumfries Point. The limestone of this locality may represent a lens within the Belmont Formation and not part of the Carriacou Formation.

5. and 6. *Grand Bay Formation.* — Two types of facies can be distinguished within the Grand Bay Formation. A sandy facies is developed in the southern area of the Grand Bay Formation outcrops and the tuffaceous, coarse-grained facies occurs in the north (Tarlton's Point, Point St. Hilaire). North of Tarlton's Point a coastal section in sandy facies is exposed. Its stratigraphic relationship with the fossiliferous beds of the tuffaceous facies at Tarlton's Point itself is obscured by a zone of faults. For reasons given below they are thought to be coeval with the beds of the sandy facies.

A total of 109 at least generically identifiable species (2 scaphopods, 20 pelecypods, 87 gastropods) have been obtained from the Grand Bay Formation. They are listed in Table 2. Some of them

Table 2. Mollusks from the Grand Bay Formation.

	sandy facies							tuffaceous facies										
	10111	10710	10716	10723	10796	10812	10813	10109	10110	10703	10704	10706	10707	10708	10709	10729	10730	10732
Dentalium cf. **uscarianum** Olsson		•						•		•							•	
Dentalium sp		•														•		
Glycymeris cf. **secticostata** N. c								•										
Glycymeris sp										•								
Limopsis grenadinarum Jung		•																
Amusium sp												•						
Pecten aff. **ventonensis** Cooke										•								
Lyropecten (Nodipecten) species								•					•					•
Chlamys species		•								•								
Palliolum (Delectopecten) antillarum Jung		•				•												
Spondylus species A																		
Spondylus ? sp		•																
Ostrea sp		•	•					•		•	•	•		•			•	
Eucrassatella sp								•		•	•							
Cardita sp																	•	
Venericardia sp								•		•								
Meiocardia cf. **agassizi** (Dall)		•													•			
Trigoniocardia sp										•								
Pitar ? sp		•																
Donax ? sp		•																
Xylophaga ? sp		•																
Kuphus cf. **polythalamia** (Linné)											•	•						
Pleurotomaria (Perotrochus) cf. **quoyana** Fischer and Bernardi (see Jung, 1968)								•							•			
Diodora ? sp		•												•				
Calliostoma minticum Jung														•				
Calliostoma ? tarltonense Jung		•	•											•	•			
Calliostoma sp		•	•							•					•			
Nerita (Nerita ?) exuvioides Trechmann										•								
Turritella (Bactrospira) altilira altilira Conrad ?								•		•	•							•
Turritella sp								•										
Architectonica (Architectonica) nobilis karsteni Rutsch		•				•									•		•	
Architectonica sp																		
Vermetus sp		•																
Petaloconchus sp								•										
Serpulorbis sp										•								
Rhinoclavis (Ochetoclava) sp										•					•			
Epitonium (Epitonium) sp						•												
Scalina cf. **kendacensis** Jung		•																
Sthenorytis grenadinarum Jung			•	•								•	•	•				•
Niso sp		•																
Hipponix sp		•																
Crucibulum sp								•		•					•	•	•	
Xenophora sp			•															
Strombus sp										•								•
Trivia cf. **suffusa** (Gray)								•										
Trivia islahispaniolae Maury		•														cf		
Macrocypraea aff. **zebra** (Linné)								•		•								
Natica (Naticarius) sp		•																
Polinices prolacteus Anderson ?		•	•												•		•	
Sinum gabbi (Brown and Pilsbry)		•											•					
Bathygalea (Miogalea) famulans Jung		•	•			•												
Semicassis ? sp										•								
Cypraecassis species		•																
Morum (Cancellomorum) (coxi) (Trechmann)		•											•	•				
Colubraria sp		•																
Distorsio sp															•			
Bursa (Colubrellina) species A		•								•					•			•
Malea cf. **camura** Guppy													•					
Ficus carriacouensis Trechmann		•	•			•		•		•			•	•	•	•	•	
Chicoreus (Chicoreus) cornurectus (Guppy)										•								
Pterynotus sp		•																
Cymatophos glareosus Jung		•	•					•				•	•		•	•	•	
Cymatophos ? sp		•																
Antillophos ? sp						•												
Metaphos ? species A		•						•										
Fusinus species A								•										
Fusinus sp		•																?
Oliva (Oliva) cf. **cristobalcoloni** Maury								•										
Oliva (Omogymna ?) valens Jung								•		•							•	
Oliva (Strephonella ?) delata Jung		•	•					•		•	•		•		•	•	•	•
Jaspidella ? balba Jung		•						•										
Mitra aff. **mauryae** Anderson						•												
Mitra limata Jung		•						cf							•			
Mitra species A		•																
Mitra sp		•																
Pusia ? sp		•				•												
Conomitra lehneri Jung		•																
Uromitra sp		•																
Scabricola ? sp		•																
Enaeta trechmanni Jung		•																
Enaeta species		•																
Aforia aff. **ecuadoriana** Olsson		•																
Knefastia sp (= Trechmann's **Pleurotoma** sp, 1935, p 547, pl 20, fig 16)		•																
Fusiturricula sp (= Trechmann's **Pleurotoma** sp, 1935, p 547, pl 20, fig 20)		•				•												
Polystira opulenta Jung		•	•					•		•							•	
Paraborsonia varicosa (G B Sowerby II)	•	•	•			•		•										
Paraborsonia laeta Jung		•				•												
Paraborsonia sp					•				•			•						
Mitratoma insularum Jung		•																
Caritoma antillarum Jung		•				•						•						
Crassispira cf. **henekeni** (G.B. Sowerby II)		•																
Crassispira sp		•				•												
Hindsiclava consors (G B Sowerby II)		•				•				•								
Hindsiclava sp		•																
Agladrillia ? sp			•				•											
Glyphostoma sp		•																
Conus cf. **consobrinus** G B Sowerby II	•	•				•		•		•								
Conus cf. **aemulator** Brown and Pilsbry		•						•										
Conus species		•						•								•	•	
Conus aff. **talis** Jung		•	•					•		•								
Conus cf. **imitator** Brown and Pilsbry		•						•		•								
Conus sp		•	•		•				•	•	•	•	•	•	•	•	•	•
Terebra (Myurellina) insulae Jung		•				?												
Terebra (Myurellina ?) sp						•				•								
Strioterebrum sp		•	•				•	•			•							
Scaphander sp		•																
Cylichnella ? sp		•																
Vaginella sp		•				•												
Pleurodonte (Pleurodonte) lehneri (Trechmann)										•	•			•	•	•	•	

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occur in both types of facies, others are restricted to one facies as tabulated below:

species occurring in sandy *and* tuffaceous facies	35
species occurring in tuffaceous facies only	32
species occurring in sandy facies only	42
total species in Grand Bay Formation	109

ASSOCIATED ORGANISMS

The nonmolluscan fossils found in the different formations are listed below. The corals are not included here as they have been studied by J. W. Wells, whose report is quoted in the next section.

Belmont Formation: algal balls
large *Balanus*
terebratulids
crinoid-stem ossicles (rare)
regular echinoids (rare)
echinoid spines (rare)
serpulids (rare)

Algal balls are rare in the Belmont Formation except in the limestone at Dumfries Point, where they overlie the basal oyster bed. About 150 meters north of Kendace Point (locality 10792) a bed crops out at sea level which yielded numerous inflated terebratulids. At other localities of the Belmont Formation brachiopods are rare. In the cliff sections SSE of Belmont Village a large species of *Balanus* is abundant. The same form occurs in the Belvedere area at locality 10697. This locality is situated just south of the outcrop of the pteropod horizon (locality 10699) and seems to be separated from it by a fault.

Carriacou Formation: echinoids
brachiopods (rare)
serpulids
Balanus (rare)
crab claws
fish vertebrae

The most conspicuous fossils of the Carriacou Formation are echinoids and fish vertebrae which occur in the lower part of the formation.

Grand Bay Formation: brachiopods (locally abundant)
Balanus (rare)
echinoid spines
plant remains (rare)

Except for the mollusks, the brachiopods are the most conspicuous fossils in the Grand Bay Formation. In the section just north of Tarlton's Point terebratulid brachiopods are concentrated in six layers of up to 30 cm thickness which are separated by thin bands without macrofossils.

PALEOECOLOGY

Undifferentiated Belmont Formation.— This unit has yielded 17 species of mollusks. All the specimens are poorly preserved and a specific identification was virtually impossible. Some of them are rolled and a certain degree of transport is probable. Living species of the genera represented in the undifferentiated Belmont Formation live in normal salinity except species of *Nerita* which point to some brackish water influence. The genera *Glycymeris, Ostrea, Trachycardium, Nerita,* and *Trochita* are indicative of a shallow-water environment, and none of the other genera exclusively suggests a deeper-water environment. Locally, the water was probably shallow (limestone lens at Dumfries Point).

Kendace Calcareous Silt Member of Belmont Formation.— The 53 species of mollusks occurring in this unit are listed in Table 1. The most striking feature of this assemblage is the presence of 14 species of pteropods. Some of these pteropod species are represented only by one or a few specimens, but species of *Vaginella* and *Clio* occur in great abundance. The following pteropod genera are represented: *Vaginella*, *Styliola*, *Clio*, *Cavolinia*, and *Sphaerocina*. With the exception of *Sphaerocina* and *Vaginella*, the latter of which has never been reported from post-Miocene deposits so far, all have living representatives.

Due to their planktonic mode of life some pteropod species are cosmopolitan in distribution. Some of them show diurnal fluctuations of various degrees, but others always seem to live close to the surface. To apply occurrence data of Recent species for paleoecological interpretations without caution might lead to erroneous conclusions. Thus Menzies (1958, p. 390) stated for *Cavolinia* *gibbosa* (Rang) that it occurs mainly in the first meter of water, whereas a form of the same genus, *Cavolinia inflexa longa* (Rang), "is a bathypelagic species occurring most abundantly between 400 and 800 meters depth". For *Euclio cuspidata* (Bosc) Menzies (1958, p. 384) indicated a vertical distribution from 0 to 100 meters, but *Euclio polita* (Pelseneer) apparently has never been recorded above a depth of 1000 meters. Chen and Bé (1964, p. 214) stated that *Styliola subula* (Quoy and Gaimard), the only living species of the genus, prefers to live in deeper water during the summer months; they refer to its occurrence off Bermuda. In the Mediterranean the same species has a vertical distribution from the surface to a depth of 600 meters according to Menzies (1958, p. 388).

Associated with the pteropods are two heteropod genera: *Protatlanta* and *Carinaria*. They are much less abundant than the pteropods being represented only by a few specimens. The presence of all these planktonic forms alone, however, does not necessarily suggest a deeper-water environment for the fauna of the Kendace Calcareous Silt Member. As pointed out by Rutsch (1934b, p. 322), their shells might have been transported into shallow water areas by currents. But the occurrence of other genera, such as *Limopsis*, *Propeamussium*, *Acesta*, *Turcicula*, and *Bathygalea*, furnishes additional evidence for a deeper-water environment.

Dall (1908, pp. 392-397) recorded and described nine species of *Limopsis* from the Eastern Pacific dredged by the *Albatross* from depths ranging from 80 to 2232 fathoms. The average of all the depth-records amounts to several hundred fathoms. Depth-records for *Propeamusium malpelonium* Dall (1908, p. 405, pl. 6, fig. 9) range from 1471 to 2463 fathoms. H. E. Vokes (1963a, 1963b) published a catalogue of species of *Acesta* including ecological information. According to that author, the three Eastern Pacific species range from 245 to 900 fathoms, the species from the Atlantic basin from 50 to 1450 fathoms, and the average of all available records is 336 fathoms. *A. colombiana* (H. E. Vokes) (1970, p. 360, pl. 53, figs. 3, 4, text-fig. 2) had been obtained from off the coast of Colombia from a depth of 220 fathoms. As mentioned under *Turcicula ? kendacensis*, n.sp., the Western Atlantic *T. imperialis* (Dall) was found in 200 fathoms, and the Eastern Pacific *T. macdonaldi* Dall from 401 to 546 fathoms, whereas depth records of Japanese species of *Turcicula* range from 100 meters to more than 1000 meters. According to Woodring and Olsson (1957, p. 26), Recent species of *Bathygalea* occur in depths of 100 meters to 567 meters, but fossil species of that genus are interpreted as being adapted to somewhat shallower water.

The 12 genera mentioned above suggest a deep-water environment for the fauna of the Kendace Member. They are associated with a number of other genera which indicate shallow-water conditions. The Recent species of some of those genera prefer to live in shallow water but show a considerable depth range. Near-shore forms probably have been transported into deeper zones. It is estimated that the sediments of the Kendace Calcareous Silt Member have been deposited at a depth greater than 200 meters and possibly as deep as 800 meters.

The pteropods reach their maximum morphological diversity in warm waters, but many forms occur in cool and even in cold water. Recent species of the deep-water genera mentioned above are adapted to cool water. Vokes (1963 a, p. 85) gave an average bottom temperature of 48.4° F. for species of *Acesta*. The temperatures for *Turcicula macdonaldi* Dall at two stations were 43° F. and 40.1° F., respectively. Dall (1908, pp. 392-397) recorded temperatures ranging from 35.8° F. to 48° F. for nine species of *Limopsis* dredged by the *Albatross*. However, the associated shallow-water forms indicate that surface waters must have been warm during deposition of the Kendace Member.

Carriacou Formation. — The 19 species of mollusks found in the Carriacou Formation clearly point to a tropical shallow-water environment. They include oysters and even a boring pelecypod, a species of *Lithophaga*. The presence of crab claws and *Balanus* suggest near-shore conditions.

Grand Bay Formation. — As mentioned above, two types of facies can be distinguished in the Grand Bay Formation: a sandy facies in the south, and a tuffaceous, coarse-grained facies in the north. Out of 109 species of mollusks, 35 are common to both facies, whereas 32 occur only in the tuffaceous facies, and 42 only in the sandy facies.

The richest mollusk locality has been found at Grand Bay cliff (NMB locality 10710), *i.e.* in the area of the sandy facies.

All the 69 species of this locality obviously have not been deposited in their original environment, because they were collected out of a graded unit which has a maximum thickness of 1.5 meters, and includes components of volcanic origin. It is difficult to decide whether the specimens have been transported over a long distance or not. It is characteristic, however, that the assemblage contains a mixture of shallow-water species and some deeper water forms. The bulk of the fauna represents a typical shallow-water assemblage which may have lived at depths of 20 to 50 meters, but certain genera, such as *Limopsis, Palliolum, Meiocardia, Bathygalea, Ficus, Aforia,* and *Hindsiclava,* suggest that the fauna has been transported into greater depths.

Depth records for species of *Limopsis* have been cited above. The Eastern Pacific *Palliolum zacae* (Hertlein) is recorded from depths of 20 to 200 fathoms, whereas *Meiocardia agassizi* (Dall), the only Recent species of the genus in the Caribbean faunal province, is known from 55 to 117 fathoms. *Bathygalea* ranges from 100 to 567 meters, and Clench (1945) recorded species of *Ficus* from 66 to 450 fathoms. Powell (1966) recorded species of *Aforia* from 60 to 1500 fathoms. According to Emerson and Radwin (1969), species of *Hindsiclava* have been found from 10 to 90 fathoms. They considered a record from 322 fathoms as doubtful.

Although the above data are incomplete by referring only to a selected number of genera, they strongly suggest that the assemblage from Grand Bay cliff (NMB locality 10710) has been deposited at a considerable depth, possibly at 150 to 200 meters. At NMB locality 10812 which is situated about 400 meters south of Grand Bay cliff, a fauna of 18 species of mollusks has been obtained which is practically identical with that from the graded unit at Grand Bay cliff. It has been collected from an ungraded calcareous sandstone, where it was associated with planktonic Foraminifera.

The assemblage collected from the tuffaceous facies of Tarlton's Point and Point St. Hilaire have a similar composition as those from the sandy facies. But they contain fewer forms indicative of a deeper-water environment *(Meiocardia, Pleurotomaria, Ficus, Hindsiclava*), and more forms which point to the proximity of a coast *(Glycymeris, Eucrassatella, Venericardia, Kuphus, Nerita,* *Rhinoclavis, Crucibulum, Pleurodonte*). The presence of *Nerita* suggests littoral conditions with some brackish water influence, but the specimens may have been washed into greater depths like the shells of the land gastropod *Pleurodonte lehneri* (Trechmann). The specimens of *Pleurotomaria (Perotrochus)* cf. *quoyana* Fischer and Bernardi described from Point St. Hilaire (= Limlair Point) by the writer (Jung, 1968) appear to be immature. According to Kanno (1961, pp. 112-115), immature specimens of Recent *Pleurotomaria* seem to prefer shallower water and migrate to greater depths when they become adults. It is likely that the sediments of the tuffaceous facies of the Grand Bay Formation have been deposited in shallower water than those of the sandy facies.

To summarize the above considerations it can be stated that water depth varied considerably from early Belmont times to late Grand Bay times, and that the salinity was fairly constant. Shallow water conditions prevailed during the deposition of the undifferentiated Belmont Formation, giving way rather abruptly to deep water conditions during the sedimentation of the Kendace Calcareous Silt Member. The fossils of the calcareous sandstones and the overlying foraminiferal and algal limestones of the Carriacou Formation again reflect a shallow-water environment, whereas during Grand Bay times, the faunas lived in moderately deep and locally in shallower water.

The distinction of shallow-water and deep-water assemblages of mollusks is also recognized in corals. All the fossil corals from Carriacou collected in 1969 were sent to Dr. J. W. Wells of Cornell University, Ithaca, New York, who kindly gave permission to quote his identifications and comments on the collection contained in a letter dated March 4, 1970. The numbers in brackets following each name are NMB locality numbers plotted in Text-figure 1:

1. Belmont Formation (undifferentiated):

   Hermatypic:

   Actinastrea sp. cf. *A. portoricensis* (Vaughan) (10743)
   Astreopora sp. (10742)
   Montastrea sp. cf. *M. cavernosa* (Linn.) (10741,10744)
   Pavona trinitatis Vaughan (10741), Miocene, Trinidad
   Siderastrea sp. cf. *S. siderea* (Ellis & Solander) (10741)
   Stylophora granulata Duncan (10741,10742), Miocene, Cuba, Dominican Republic)

II. Belmont Formation (Kendace Calcareous Silt Member):

Ahermatypic:

- *Balanophyllia* sp. (10699,10737)
- *Caryophyllia* sp. cf. *C. antillarum* Pourtalès (10792), 40 meters minimum in West Indies
- caryophylliid indet. (10737)
- *Dendrophyllia* sp. (10737)
- *Fungiacyathus* sp. cf. *F. symmetricus* (Pourtalès) (10789), 180 meters minimum in West Indies
- *Stenocyathus* sp. (10804), 280 meters minimum in West Indies
- *Trochocyathus* sp. cf. *T. rawsoni* Pourtalès (10789), 150 meters minimum in West Indies

III. Grand Bay Formation:

Hermatypic (some mixture):

- Ahermatypic:
  - caryophylliid indet. (10709)
  - dendrophylliid indet. (10709)
  - *Desmophyllum* sp. (10709), 40 m minimum in West Indies
  - *Madrepora* sp. (10709), 75 m minimum in West Indies
- *Pocillopora* sp. cf. *P. baracoaensis* Vaughan (10709), Miocene, Cuba
- *Stylophora* sp. cf. *S. imperatoris* Vaughan (10709), Oligocene, Panama, Anguilla
- caryophylliid indet. (10729)
- *Montastrea limbata* (Duncan) (10704), Miocene, Dominican Republic, Cuba
- *Pocillopora* sp. cf. *P. baracoaensis* Vaughan (10704)
- *Stylophora monticulosa* Hoffmeister (10704,10729,10730), Miocene, Dominican Republic
- *Stylophora,* sp. cf. *S. imperatoris* Vaughan (10109,10704)
- *Stylophora,* n. sp. (10729)

Ahermatypic:

- *Caryophyllia* sp. cf. *C. antillarum* Pourtalès (10710)
- caryophylliid indet. (10716)
- *Cladocora* ? sp. (10710)
- *Deltocyathus* sp. (10710), 130 meters minimum in West Indies
- *Desmophyllum* sp. (10716), 40 meters minimum in West Indies
- *Flabellum* sp. (*pavoninum*-group) (10710), 320 m minimum in E. Atlantic
- *Flabellum* sp. 2 (10710)
- *Flabellum* sp. 1 (10716)
- *Stephanocyathus* sp. (10710), 400 m minimum in West Indies
- *Balanophyllia* sp. (10706)
- *Caryophyllia* sp. cf. *C. communis* (Seguenza) (10706), 280 meters minimum in West Indies
- caryophylliid indet. (10703,10706)
- *Cladocora* ? sp. (10707)
- *Flabellum* sp. (*pavoninum*-group) (10703,10707)
- *flabellid indet.* (10707)

Dr. Wells' comments on these corals are as follows:

There are two distinct ecological associations of corals represented: hermatypic and ahermatypic. The former, taken alone, would indicate relatively shallow water not more than 100 meters and probably less than 60, but there is the possibility that these corals, all being worn, are not in place of growth but have rolled down slopes into the deeper water environment of the ahermatypic corals, as suggested by the mixture of the two castes in the specimens from 10709.

The ahermatypic corals are of considerable interest, as they are the first specimens of any significance from the Miocene of the Caribbean region (save for an odd bit here and there), and as might be expected at this stage, their relations appear to be closest to the living deep-water coral fauna of the same area. In general, based on what is known of the depth distribution in the Caribbean today of the genera or species recognized in the collection, they suggest depths considerably greater than 100 meters, and perhaps more than 200.

As to age, there is nothing in the coral data to suggest an age older than Miocene, or younger, so far as the Caribbean fossil coral faunas are now known.

AGES

The assignment of relative ages to the molluscan faunas from Carriacou depends mainly on its largest fauna, *i.e.* that of the Grand Bay Formation. The assemblages of the undifferentiated Belmont Formation and the Carriacou Formation taken alone are too small and too badly preserved to allow an age assignment other than Miocene. Their allocation to the early Miocene is based on their stratigraphic position below the Grand Bay Formation.

Comparison of the fauna of the Grand Bay Formation with related faunas from elsewhere in the Tertiary Carribean faunal province offers three major difficulties. (1) Many forms could be identified generically only; (2) Due to insufficient preservation, open nomenclature had to be applied in many cases; (3) The species described as new are inappropriate for the purpose of age assignments.

Trivia islahispaniolae Maury, *Sinum gabbi* (Brown and Pilsbry), and *Paraborsonia varicosa* (G. B. Sowerby II) have so far been found only in middle Miocene deposits, and *Hindsiclava consors* (G. B. Sowerby II) seems to be confined essentially to middle Miocene as well. *Turritella altilira* Conrad and *Chicoreus cornurectus* (Guppy) are known from beds of early, middle and late Miocene age. *Architectonica nobilis karsteni* Rutsch has been recorded from middle to late Miocene deposits up to now, but it is here recorded from the Kendace Calcareous Silt Member of the Belmont Formation which is considered to be of late early Miocene age (see below). A number of additional species are possibly identical with middle Miocene species but have been identified by means of open nomenclature. They include *Malea* cf. *camura* Guppy, *Oliva* cf. *cristobalcoloni* Maury, *Crassispira* cf. *henekeni* (G. B. Sowerby II), four species of *Conus,* and others. Some of the species mentioned above are identical or similar to species from the Cercado Formation and Gurabo Formation of the Dominican Republic, but as a whole the Grand Bay fauna is not closely related to any of the described Miocene faunas. There is little resemblance with geographically relatively close occurrences such as the faunas from the Brasso Formation and Manzanilla Formation of Trinidad. However, the species listed above point to a middle Miocene age of the Grand Bay fauna.

A few species of the Grand Bay Formation show affinities to late Neogene and Recent species. They include *Meiocardia* cf. *agassizi* (Dall), *Kuphus* cf. *polythalamia* (Linné), *Pleurotomaria (Perotrochus)* cf. *quoyana* Fischer and Bernardi, *Trivia* cf. *suffusa* (Gray), *Macrocypraea* aff. *zebra* (Linné), and *Aforia* aff. *ecuadoriana* Olsson. Unfortunately, they could be identified by open nomenclature only and are thus not too relevant.

On the other hand, three species point to an older age than middle Miocene: *Pecten* aff. *ventonensis* Cooke, *Polinices prolacteus* Anderson ?, and *Mitra* aff. *mauryae* Anderson, all identified with different degrees of doubt. In addition, there are six species occurring in the Grand Bay Formation as well as in the underlying Kendace Calcareous Silt Member of the Belmont Formation: *Limopsis grenadinarum* Jung, *Lyropecten (Nodipecten)* species, *Architectonica nobilis karsteni* Rutsch, *Polinices prolacteus* Anderson ?, *Bathygalea (Miogalea) famulans* Jung, and *Ficus carriacouensis* Trechmann. This list can be enlarged by species which are possibly identical or closely related (compare Tables 1 and 2): *Calliostoma* ? *tarltonense* Jung, *Scalina* cf. *kendacensis* Jung, *Trivia islahispaniolae* Maury, *Natica (Naticarius)* sp., *Sinum gabbi* (Brown and Pilsbry), *Distorsio* sp., *Cymatophos glareosus* Jung, *Jaspidella* ? *balba* Jung, and *Paraborsonia* sp. It seems probable therefore, that the fauna of the Grand Bay Formation is of early middle Miocene age.

The Kendace Calcareous Silt Member of the Belmont Formation underlies the Grand Bay Formation and the Carriacou Formation. Therefore, its fauna is likely to be of early Miocene and probably of late early Miocene age. As pointed out above, the characteristic feature of this fauna is the occurrence of abundant pteropods. The pteropod and heteropod fauna from the Ste. Croix beds of the Brasso Formation of Trinidad studied by Rutsch (1934b) has the same generic composition as that from Carriacou, which in itself, however, does not mean much. *Clio pulcherrima* (Mayer) is the only species common to both localities, but the single specimen from Carriacou could not be determined definitely. As stated by Rutsch and in the systematic part of this paper, the Ste. Croix pteropods and those from Carriacou show close relationships with the pteropod faunas from the Italian Miocene, and especially with that of the Serravalliano of Monte Gargano. The Ste. Croix beds of the Brasso Formation of Trinidad fall within the *Globigerinatella insueta* zone which corresponds to upper N.7 and lower N.8 zones of Blow (1969, pp. 228, 229). The Foraminifera from the type section of the Kendace Calcareous Silt Member indicate zone N.7 (Robinson and Jung, in press). It seems probable, therefore, that the two pteropod assemblages are penecontemporaneous.

In the above mentioned paper on the stratigraphy of the marine sediments of Carriacou, the molluscan faunas described in this publication are correlated with foraminiferal biozones.

SYSTEMATIC DESCRIPTIONS

BIVALVIA

Family **LIMOPSIDAE**

Genus **LIMOPSIS** Sassi, 1827

Subgenus **PECTUNCULINA** d'Orbigny, 1843

Limopsis (Pectunculina) grenadinarum, n.sp. Pl. 1, figs. 1,2

Of medium size, inequilateral, moderately inflated. Concentric sculpture consists of rounded ridges of varying width. Interspaces wider than concentrics. Radial sculpture poorly developed, usually restricted to posterior portion of shell. On the central part of the shell the radial striae are visible only in the interspaces. Beaks situated slightly anteriorly. Ligamental pit triangular. Hinge interrupted centrally, with five teeth on both sides. Anterior muscle scar situated just below anterior end of hinge. Posterior muscle scar about twice as large as anterior one. Inner margin finely fluted ventrally and posterio-ventrally.

Holotype. — NMB No. G 14067.

Dimensions of holotype (right valve). — Length 6.6 mm; height 4.8 mm.

Type locality. — NMB locality 10699: Belvedere. Kendace Calcareous Silt Member of Belmont Formation.

This species is based on about 70 specimens; more than half of them have been collected at the type locality. Their state of preservation is not good. The sculpture is usually only partly preserved. Most individuals are double-valved specimens; single shells are often broken and details of their hinges hard to recognize. It is thus impossible to make remarks on the variability.

In most of the described species of *Limopsis* from the Caribbean Tertiary the variability is not known either. According to topotypes *L. subangularis* Guppy (*in* Guppy and Dall, 1896, p. 325, pl. 30, fig. 2) from the Ditrupa Beds of Pointe-à-Pierre, Trinidad, which are now assigned to the Concord Calcareous Silt Member of the Tamana Formation (Kugler MS), is smaller than *L. grenadinarum* on an average and lacks the fluting of the inner margin. The radial sculpture is more pronounced in *L. subangularis*. In a private report prepared for Trinidad Leaseholds Ltd. R. Rutsch described *L. subangularis frischknechti* from the Ste. Croix Limestone Member of the Brasso Formation. This subspecies is a *nomen nudum*, because it has never been formally described, but it has been listed by Stainforth (1948, pp. 1310, 1313). The material on which Rutsch based his form is at hand. The form is even smaller than *L. subangularis*, but its inner margin is fluted as in *L. grenadinarum*.

L. ovalis Gabb (1873b, p. 255) from the Miocene of the Dominican Republic does not have a fluted inner margin according to the figure of the type given by Pilsbry (1922, p. 402, text-fig. 35). It is less inequilateral and has a more pronounced radial sculpture than *L. grenadinarum*. The same is true for *L. hatoviejonis* Maury (1917, p. 162, pl. 26, fig. 11) from the middle Miocene of the Dominican Republic.

L. ovalis silova Woodring (1925, p. 55, pl. 6, figs. 4, 5) and *L. jamaicensis* Woodring (1925, p. 55, pl. 6, figs. 6, 7), both from the Bowden Formation of Jamaica, are smaller and less inequilateral than *L. grenadinarum* and their radial sculpture is well developed.

Several specimens of *L. aguilari* Böse (1906, p. 53, pl. 1, figs. 11, 16) from the Pliocene (?) of Aquacatepec, Coatzacoalcos River, Isthmus of Tehuantepec, Mexico, are at hand. Most of these specimens are about 15 mm long, whereas the largest shells of *L.*

grenadinarum reach only 10 mm in length. *L. aguilari* has a smooth inner margin, and its triangular, ligamental pit is much broader than in *L. grenadinarum.* The radial sculpture of *L. aguilari* is characterized by grooves which are more or less interrupted and not by riblets as in most species of the genus. *L. grenadinarum* needs comparison with *L. monilis* Olsson (1922, p. 177, pl. 26, figs. 23, 24) from the Gatun Formation (middle Miocene) of Costa Rica. No specimens of *L. monilis* are available, but the shells figured by Olsson are small and might be immature.

Most Recent species of the genus *Limopsis* live in deeper water. *L. grenadinarum* from the Kendace Member of the Belmont Formation is always associated with pteropods suggesting that these beds were deposited in a deeper water environment.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108, 10699, 10753, 10779, and 10778 (reworked into lower part of Carriacou Formation). Grand Bay Formation: NMB locality 10710.

Family **SPONDYLIDAE**

Genus **SPONDYLUS** Linné, 1758

Spondylus species A Pl. 1, figs. 4,5

A single large, left valve from Point St. Hilaire is available. Although there are radial ribs of four orders, the difference of their respective sizes is not pronounced. This results in a fairly uniform and relatively fine, radial sculpture. Corresponding to the fineness of the radials, the spines and scaly processes are not large. Inner margin crenulated. Posterior end somewhat produced. Length 91 mm, height 99 mm.

Spondylus species A from Carriacou most closely resembles *Spondylus* aff. *lucasi* Maury as described from the middle Miocene of the Paraguaná Peninsula, Venezuela (Jung, 1965, p. 440, pl. 55, figs. 2,3). Both forms have the same type of sculpture, but there is not enough material for a satisfactory comparison. Other species with fine, radial sculpture include *S. lucasi* Maury (1920, p. 23, pl. 5, fig. 1) from the Oligocene (?) of Puerto Rico and *S. filiaris* Dall (1916, p. 493, pl. 83, figs. 5,6) from the Oligocene of Flint River, Georgia. The species of *Spondylus* occurring in the early Miocene Anguilla Formation of Anguilla has been identified as *S. bostrychites*

Guppy by Cooke (1919, p. 144, pl. 11, figs. 11a,b). A lot of 17 specimens of the form from Anguilla is at hand. All the specimens have much narrower radials and are smaller on an average than specimens of *S. bostrychites* from the Dominican Republic and Jamaica (see Palmer, 1938, p. 6, pl. 1, figs. 1,2; pl. 2, figs. 1,3,5; pl. 3, figs. 1-5; Pflug, 1961, p. 77, pl. 23, figs. 1,8). The *Spondylus* from the Aquilla Formation probably represents a new species.

A single left valve was collected from the basal part of the Belmont Formation (NMB locality 10742) and is labelled *Spondylus* sp. ind. This specimen is even larger than *Spondylus* species A from Point St. Hilaire, but both probably represent the same species. The specimen from the Belmont Formation is badly preserved and so strongly weathered that the sculpture is unrecognizable.

Occurrence. — Grand Bay Formation: NMB locality 10704.

Family **PECTINIDAE**

Genus **LYROPECTEN** Conrad, 1862

Subgenus **NODIPECTEN** Dall, 1898

Lyropecten (Nodipecten) cf. colinensis (F. and H. Hodson) Pl. 1, fig. 3

1935. *Nodipecten* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 540; as *Nodipecten* cf. *colinensis* F. and H. Hodson see explanation of Pl. 1, fig. 3.

Four specimens from the Trechmann collection from the top of Bretache Point are at hand. As stated by Trechmann (1935, p. 540) their state of preservation does not allow a definite identification. The general features are the same as in *L. colinensis* (F. and H. Hodson) (*in* Hodson, Hodson, and Harris, 1927, p. 33, pl. 18, figs. 3,6; pl. 19, fig. 4), but the secondary sculpture on and between the primary radials is only partly recognizable on the specimens from Carriacou.

Besides the four large specimens from the Carriacou Formation of Bretache Point mentioned above there are a number of small and fragmentary specimens from the Belmont Formation, the Carriacou Formation, and the Grand Bay Formation which are listed as *Lyropecten (Nodipecten)* species.

Genus **CHLAMYS** Röding, 1798

Chlamys species Pl. 3, fig. 5

A species of *Chlamys* is represented by two almost complete specimens and two fragmentary shells. The shell is thin, fragile and higher than long. Although no posterior auricle is preserved, they must have been small. Byssal notch deep. Above the fasciole the anterior auricle is sculptured by six radials. The radial sculpture of the main shell disc consists of numerous, fine threads of three magnitudes. The primaries number about 20. Although the intercalation of secondaries and tertiaries is not always regular, the total number of radials is about 80. Many of the radials are finely squamose, especially anteriorly.

In general outline this species is not unlike the Recent West Indian *C. sentis* (Reeve) as figured by Abbott (1954) and others, but the radial sculpture of the fossil is much finer. The form from Carriacou resembles that reported by Mongin (1968, p. 485, pl. 41, fig. 4) from the Miocene of Guadeloupe as *Chlamys* sp. gr. *pusio* (Linné), but the species from Guadeloupe is smaller and has a coarser radial sculpture.

Occurrence. — Carriacou Formation: NMB locality 10787. Grand Bay Formation: NMB localities 10703, 10710.

Genus **PALLIOLUM** Monterosato, 1884

Subgenus **DELECTOPECTEN** Stewart, 1930

Palliolum (Delectopecten) antillarum, n. sp. Pl. 3, figs. 3,4

1935. *Pecten* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 541.

Of small to medium size; shell thin almost equilateral; auricles of left valve subequal. Left anterior auricle with about six radial threads, left posterior one with one or two threads. Auricles of right valve unequal; byssal notch deep; Right anterior auricle with a sunken fasciole above which there are three to five comparatively coarse, radial threads. Right posterior auricle with one or two radials. Radial sculpture of shell disc consists of 20 to 30 fine threads which develop small scales where they are crossed by incremental, concentric lines. Spaces between radials smooth.

Holotype. — NMB No. G 14076.

Dimensions of holotype (right valve). — Length 18.4 mm; height 21.2 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is represented by eight specimens, six of which have been collected at the type locality, and by one shell and two fragments from Grand Bay cliff of the Trechmann collection (Brit. Mus. Geol. Dept. LL 24513-5). The hinge and internal features cannot be described as all the specimens are attached to matrix. Although this species is described above as having 20 to 30 radials, there are shells with less than 20 radials.

Apparently *P. antillarum* is the first species of *Delectopecten* described from the Caribbean region. Recent species from the Eastern Pacific live in deep water. *P. zacae* (Hertlein) (1935, p. 321, pl. 18, figs. 3-6,9,10) (= *P. panamense* (Dall) (1908, p. 404, pl. 6, figs. 8,10) is recorded from depths of 20 to 200 fathoms and ranges from Lower California to Panama. *P. zacae* is smaller than *P. antillarum* and its radial sculpture consists of many more threads. *P. polyleptum* (Dall) (1908, p. 403, pl. 10, fig. 9), which is even smaller than *P. zacae* and has also more radials than *P. antillarum*, has been collected from a depth of 30 fathoms near the Galapagos Islands.

Fossil species of *Delectopecten* include *P. peckhami* (Gabb) (1869, p. 59, pl. 16, figs. 19,19a) and *P. terryi* (Olsson) (1942, p. 30, pl. 2, figs. 5,6,7). Stewart (1930, p. 119) gave a full synonymy of *P. peckhami* from the Miocene of California and selected and figured the lectotype. *P. peckhami* is smaller than *P. antillarum* and apparently there are more radial threads than in the species from Carriacou. *P. terryi* (Olsson) from the Pliocene Charco Azul Formation of Carco Azul, Panama, is also smaller than *P. antillarum*. The central portion of its right valve is smooth which is not the case in *P. antillarum*. *P. terryi* is associated with a fauna including a number of deep-water species. Olsson expressed the opinion that the shales of Charco Azul were probably deposited in a depth of 100 to 400 fathoms.

Occurrence. — Grand Bay Formation: NMB localities 10710, 10812.

Famiy **LIMIDAE**

Genus **ACESTA** H. and A. Adams, 1858

Subgenus **ACESTA** s.s.

Acesta (Acesta) goajira Olsson and Richards ? Pl. 2, figs. 5,6

Olsson and Richards (1961, p. 6, pl. 1, fig. 1) described *A.*

goajira based on a single specimen collected from limestones ten kilometers SSE of Guatchari on the Goajira Peninsula, northeastern Colombia. The age was given as probably Upper Oligocene.

The material from Carriacou consists of an incomplete left valve and two fragmentary specimens. The surface sculpture is identical with that of *A. goajira, i. e.* the fine, somewhat irregular radials are restricted to the dorsal and postero-dorsal margins. The remainder of the shell is smooth except for a few incrementals. Lunular area depressed, sculptured by radial lines.

The interior of the type of *A. goajira* is not known. The identification of the Carriacou fossils must, therefore, remain somewhat questionable. The hinge of the specimen here figured is 30 mm long, the hinge line almost straight. The ligamental pit is strongly curved and 10 mm broad at its base. Beak situated near anterior end of hinge. Angle between hinge line and inner margin of lunule about 120°.

A. hertleini (Olsson) (1964, p. 37, pl. 9, figs. 6-6b) from the Neogene Esmeraldas Formation of NW Ecuador is a smaller species with similar sculpture, but differs in details of the hinge. The angle between hinge line and inner margin of lunule is larger in *A. hertleini* and the inner margin of the lunule curved, whereas it is almost straight in the shell from Carriacou.

Specimens of the Recent *A. bullisi* (H. E. Vokes) (1963a, p. 77, pls. 1,2) have been obtained 70 to 75 miles S and SSE of the entrance to Mobile Bay, Alabama, from depths of 300 to 600 fathoms. The radial sculpture of *A. bullisi* extends over the whole shell disc and is not restricted to the dorsal and postero-dorsal margins as in *A. goajira*. The angle between hinge and inner margin of the lunule is larger in *A. bullisi*. The second Recent Western Atlantic species of *Acesta* known, *A. colombiana* (H. E. Vokes) (1970, p. 360, pl. 53, figs. 3,4, text-fig. 2), has been collected off the coast of Colombia at a depth of 220 fathoms. *A. colombiana* is larger than *A. goajira* ? from Carriacou, but similar in proportions. As in *A. bullisi* the radial sculpture of *A. colombiana* is not restricted to the dorsal and postero-dorsal margins.

H. E. Vokes (1963a,1963b) listed the known Tertiary and Recent species of *Acesta* giving ecologic information for the Recent species. *A. goajira* ? from Carriacou is associated with inflated terebratulids and pteropods.

Occurrence. — Kendace Member of Belmont Formation: NMB locality 10792.

Family **OSTREIDAE**

Genus **OSTREA** Linné, 1758

Ostrea cf. paraguanensis F. Hodson Pl. 3, figs. 1,2

The basal part of the limestone outcropping at Dumfries Point is crowded with a large species of oyster. If not distorted by the mode of attachment, the valves are symmetrical. Ligamental groove broad and situated centrally; muscle scar large and deep. Outer surface sculptured by a few coarse, radial plications. All the available specimens are moderately concave, left (attached) valves. They are strongly weathered and details of their sculpture not recognizable.

This is the form recorded by Trechmann (1935, p. 540, text-fig. 3) as *O.* cf. *gatunensis aguaclarensis*. The type locality of *O. paraguanensis* F. Hodson (*in* Hodson and Hodson, 1931b, p. 5, pl. 4, fig. 2; pl. 5, fig. 2) is indicated as three kilometers from La Candelaria on road to Cocodite, District of Falcón, State of Falcón, Venezuela, and the age given as middle Oligocene. It is likely that the sediments of that area are not of Oligocene, but of Miocene and probably middle Miocene age. The lack of topotypes of *O. paraguanensis* makes a comparison impossible.

O. cf. *paraguanensis* from Carriacou also needs comparison with *O. aguaclarensis* F. Hodson (*in* Hodson, Hodson and Harris, 1927, p. 21, pl. 10, fig. 7; pl. 11, fig. 4; pl. 12, fig. 4) from the Oligocene-Miocene of the State of Falcón, Venezuela. Most of the localities given for *O. agualarensis* in the original description fall within the Agua Clara Formation which is of lower Miocene age according to Wheeler (1963) and Hunter and Ferrell (1969).

Occurrence. — Belmont Formation: NMB locality 10747. Carriacou Formation: NMB localities 10822, 10823.

Ostrea (subgenus ?) aff. **antiguensis** Brown Pl. 4, fig. 1

A single large, left valve pieced together from many fragments is available. Although the outer surface is strongly weathered, the exterior must have been almost smooth as only indications of radial ridges are recognizable. On the posterior third of the valve there is a broad and deep, radial depression. The large and deep muscle scar corresponds in situation to the central part of that depression. In front of the muscle scar there is a deep, curved depression with the convex side anteriorly extending from below the ligamental pit to the ventral margin. Ligamental pit low, but broad, not projecting.

According to the original description the external sculpture of *O. antiguensis* Brown (1913, p. 614, pl. 19, figs. 7; pl. 20, figs. 1,5,6) from the Antigua Formation (Oligocene) of Antigua is variable. According to Cooke (1919, p. 128, pl. 6, figs. 1a,b,2a,b) the external depression is not always present. But he considered the internal depression as a persistent character. Although obviously related to *O. antiguenis,* the species from Carriacou differs by its much larger size and the rudimentary external plications. In addition *O. antiguensis* has a projecting ligamental pit which is not the case in the form from Carriacou.

Species with the characteristic features of the external, posterior depression and the internal, anterior, curved depression might be grouped under a new subgenus. In addition to *O. antiguensis* and the form from Carriacou there are few undescribed species showing these features. The first one is represented by a single specimen contained in the collection of Mayer-Eymar which is now deposited at the Naturhistorisches Museum Basel. It had been collected from the middle or upper Eocene St. Bartholomew Formation of St. Bartholomew and is characterized by a smooth outer surface. The oyster from the St. Bartholomew Formation recorded by Cooke (1919, p. 129, pl. 9, fig. 1) as *O.* cf. *trigonalis* Conrad may be the same species as the specimen at hand, but this is not evident from Cooke's description and figure. Cooke described his specimens as broadly plicate exteriorly, but he does not mention the depression.

The second undescribed species belonging to this group of oysters is represented by several specimens from the Morne Diablo Limestone Member of the Cipero Formation) (Oligocene) of Morne Diablo Quarry, Trinidad. The left valve of this species is deeply concave and has five to ten plications which are partly even spinose in front of the depression and up to three plications behind it. The ventral margin of the right valve is bent outward as in *O. antiguensis*. The available specimens of this species do not exceed 100 mm in height.

The specimen from Carriacou occurs in the basal part of the Belmont Formation which is probably of early Miocene age. This group of oysters, therefore, has a known stratigraphic range from middle or upper Eocene to lower Miocene. *O. paraguanensis* F. Hodson (*in* Hodson and Hodson, 1931b, p. 5, pl. 4, fig. 2; pl. 5, fig. 2) from deposits of probably middle Miocene age of the Paraguaná Peninsula, Venezuela, has a shallow exterior depression as well and might be a descendant of the group of species mentioned above.

Occurrence. — Basal Belmont Formation: NMB locality 10744.

Family **GLOSSIDAE**

Genus **MEIOCARDIA** H. and A. Adams, 1857

Meiocardia cf. agassizi (Dall) Pl. 2, fig. 4

The four specimens available from Carriacou are insufficiently preserved for a full description. The delicate shell is slightly eroded and the hinge inaccessible. The ridge, which is situated at about the middle of the posterior slope, is well developed.

Dall (1886, p. 271) described *M. agassizi* based on a single right valve dredged off Trinidad at a depth of 117 fathoms. This species was figured by Dall (1889a, pl. 40, fig. 7) and the same figure reproduced by Dall (1889b, pl. 40, fig. 7). These figures show only the exterior of the shell. Its hinge remains unfigured.

M. agassizi is the only Recent species of the genus in the Caribbean faunal province. According to Nicol (1968, p. 90) its geographic distribution is restricted to a small area in the southeastern Caribbean Sea: Trinidad, Barbados, and off the north coast of Venezuela.

However, in a private report prepared for Gulf Research and Development Company, R. Rutsch recorded a double-valved specimen of *M. agassizi* from a locality east of the Mississippi Delta, about 84 nautical miles SSE of Mobile. Coordinates: Lat. 29° 19′ 30″ North; Long. 87° 46′ 22″ West. Depth 55 fathoms (apparently dead shell). These shells are here figured (Pl. 2, figs. 1-3) mainly to show hinge features. This record also extends the geographic distribution of the species into the northern Gulf of Mexico. *M. agassizi* has, therefore, a depth range from 55 to 117 fathoms until further information is available.

The fossils from Carriacou may be conspecific with *M. agassizi*, although they seem to be proportionately shorter. Trechmann (1937, p. 354, pl. 12, figs. 15-17) recorded *M.* cf. *agassizi* from the basal Coralrock Formation (late Pliocene) of Barbados, where it is associated with *Haliotis* and *Pleurotomaria.* This association led Trechmann (1937, p. 358) to believe that the faunule from the basal Coralrock Formation of Barbados "may have lived at a depth of 700 to 1000 feet".

The types of *M. carolinae* Harris (*in* Van Winkle and Harris, 1919, p. 14, pl. 2, figs. 5,6) from the upper Eocene of North and South Carolina are not preserved well enough to allow a comparison. Harris (1919, p. 135, pl. 42, fig. 11) figured another specimen of *M. carolinae* from the middle Eocene of North Carolina. This specimen, however, has more pronounced concentric sculpture and a less curved ventral margin than *M. agassizi. M. palmerae* Nicol (1968, p. 90, figs. 1-5) from the late Eocene Crystal River Formation of Florida, is a proportionately high species. Most of the paratypes of *M. palmerae* have a smooth outer surface, but some have a coarse, concentric ribbing. In this last respect they resemble *M. colombiana* Clark (1946, p. 72, pl. 13, figs. 19-22) from the upper Eocene of Colombia.

Occurrence. — Grand Bay Formation: NMB localities 10709, 10710.

GASTROPODA

Family **TROCHIDAE**

Genus **TURCICULA** Dall, 1881

Turcicula ? kendacensis, n.sp. Pl. 4, figs. 2,3,6,7

Of medium to large size. Whorls sculptured by two spiral rows of small spines. The upper row forms a shoulder, the lower one forms an angle between upper part of the whorl and the base. Area between well-marked suture and upper row of spines straight to slightly convex, sculptured by prosocline growth lines only. Area between the two rows concave. The lower row has smaller but a higher number of spines than the upper one. Base smooth except for growth lines. Aperture almost circular. Umbilicus imperforate.

Holotype. — NMB No. H 15424.

Dimensions of holotype. — Height 34.0 mm; maximum diameter 36.7 mm.

Type locality. — NMB locality 10789: Kendace Point. Kendace Member of Belmont Formation.

This species is represented by three incomplete specimens, two of which have been collected at the type locality. Protoconch and early whorls are not known.

Turcicula ? *kendacensis* does not seem to have any close relative in the Caribbean faunal province. In type of sculpture it resembles the Recent *T. imperialis* (Dall)(1881, p. 42; 1889b, p. 376; pl. 22, figs. 1,1a) which had been collected off Cuba from a depth of 200 fathoms. *T.* ? *kendacensis* is much larger, however, has no spiral sculpture on the base and lacks the row of beads just below the suture.

Recent species of *Turcicula* live in deeper water. Depth records of Japanese species range from 100 to more than 1000 meters. The Eastern Pacific *T. macdonaldi* Dall (1889b, p. 348, pl. 7, fig. 7) ranges from 401 to 546 fathoms.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10699, 10789.

Genus **CALLIOSTOMA** Swainson, 1840

Calliostoma mirificum, n.sp. Pl. 5, figs. 5-8

Shell large, with about six spire whorls. Outline of spire concave on a whole, but profile of early spire whorls straight. The last two or 2½ whorls rapidly enlarging. Sculpture of early spire whorls consists of three primary, slightly beaded spirals with one or two intercalated secondary spirals. On the body whorl there are about eight subequal, noded spirals. Periphery pronounced but not keeled. Base sculptured with 12 to 14 spirals with interspaces of about the same width. Umbilicus imperforate.

Holotype. — NMB No. H 15429.

Dimensions of holotype. — Height 26.7 mm; maximum diameter 46.2 mm.

Type locality, — NMB locality 10708: Tarlton's Point. Grand Bay Formation.

The holotype and the figured paratype are the only specimens available. A fragment from the type locality showing part of the base is only questionably assigned to this species. The holotype and the paratype are both crushed specimens; the spire is sunken into later spire whorls. *C. mirificum* seems to be an imperforate species. Although the holotype shows an open umbilicus, there are remains of an apparently thick umbilical callus.

C. mirificum seems to be related to the Recent *C. aurora* Dall (1888, p. 68, fig. 285, 1889b, p. 366, pl. 37, fig. 2) which is known from off the west coast of Grenada, Lesser Antilles, in 576 fathoms and from off the west coast of Barbados in 140 fathoms (Clench and Turner, 1960, p. 64, pl. 45, figs. 1,2). *C. mirificum* is larger than *C. aurora* and differs in lacking a pronounced keel at the periphery and in having a convex base. *C. metalium* Woodring (1957, p. 63, pl. 18, figs. 12-14) from the late Miocene Chagres sandstone of Panama (Woodring, 1966, p. 432) is also a smaller species than *C. mirificum* and has a pronounced peripheral keel. It lacks the noded spirals of *C. mirificum* and its base is but weakly sculptured.

Occurrence. — Known from the type locality only.

Calliostoma ? tarltonense, n.sp. Pl. 5, figs. 1-4

Of medium to large size. Protoconch smooth, with about 1½ convex whorls. Postnuclear whorls four, strongly convex. Suture distinct. Spire whorls sculptured by five beaded spirals. The uppermost two spirals are separated from the lower three spirals by a wider interspace. Body whorl sculptured by seven beaded spirals. Periphery rounded. Base evenly convex, with about ten finely beaded spirals. Umbilicus imperforate. Outer lip thin, everted, strongly prosocline. Callus on inner lip thin.

Holotype — NMB No. H15426.

Dimensions of holotype. — Height 31.6 mm; maximum diameter 28.2 mm.

Type locality. — NMB locality 10709: Tarlton's Point. Grand Bay Formation.

The holotype and the figured paratype are the best preserved shells out of about 20 fragmentary specimens. The material is not good enough to observe specific variability. Many of the specimens show only part of the body whorl, and their assignment to the genus *Calliostoma* is most questionable.

In size and coarseness of sculpture this species superficially resembles the Recent *C. amazonicum* Finlay as figured by Clench and Turner (1960, p. 60, pls. 41,42) from Argentina, but the sutures of *C. ?tarltonense* are much more incised, the whorls are less convex, and the apical angle is smaller.

Occurrence. — Grand Bay Formation: NMB localities 10708, 10709,10710,10716.

Calliostoma ? aff. **tarltonense,** n.sp. Pl. 4, figs. 4,5

A single specimen from the Kendace Member of the Belmont Formation of Belvedere (NMB locality 10699) differs from *C. ? tarltonense* by its finer sculpture and less incised sutures. The beads on the spirals are smaller and more closely spaced. The protoconch consists of about 1¼ smooth whorls and the postnuclear whorls number 4¼. The outer lip of the specimen is not preserved.

Family **NERITIDAE**

Genus **NERITA** Linné, 1758

Subgenus **NERITA** s.str.

Nerita (Nerita ?) **exuvioides** Trechmann Pl. 6, figs. 1,2

1935. *Nerita exuvioides* Trechmann, Geol. Mag., vol. 72, No. 858, p. 551, pl. 20, fig. 30.

Of medium size; spire low; body whorl inflated. Sculpture consists of 12 coarse spirals with interspaces of about the same width. The sides of the spirals are slightly overhanging the interspaces. Apertural features unknown.

Holotype. — British Museum (Natural History), Dept. Palaeont., No.GG 4503.

Dimensions of holotype. — Height 22.5 mm; width 27.2 mm.

Type locality. — Point St. Hilaire (Grand Bay Formation), Carriacou.

N. exuvioides is still insufficiently known. The holotype is an incomplete specimen unsuitable as type material. Later collections contain only one fragmentary topotype. More extensive collecting at the type locality, however, might yield better specimens.

The variability of *N. exuvioides* is, therefore, not known and the tentative identification of a specimen from the late Miocene Melajo Clay Member of the Springvale Formation of Trinidad as *N. exuvioides* (Jung, 1969, p. 424, pl. 42, figs. 12, 13) cannot be confirmed yet. The Trinidad specimen has 16 spirals on the body whorl, *N. exuvioides* only 12.

Occurrence. — Grand Bay Formation: NMB locality 10703.

Nerita (subgenus ?) species A Pl. 6, figs 3,4

Of small to medium size; spire low, body whorl inflated. Sculpture consists of 25 spiral ridges. The spirals on the upper part of the body whorl are wider than the lower ones. Interspaces considerably narrower than the spirals. Aperture semilunar. Features of inner and outer lips unknown.

This form is represented by a single, worn specimen from the lower part of the Belmont Formation. Details of the inner lip are not recognizable and the matrix on the outer lip cannot be removed without risk of damaging the specimen. Height of specimen 16.4 mm, maximum diameter 18.0 mm.

Occurrence. — Lower part of Belmont Formation: NMB locality 10743.

Family **TURRITELLIDAE**

Genus **TURRITELLA** Lamarck, 1799

Subgenus **BACTROSPIRA** Cossmann, 1912

Turritella (Bactrospira) altilira altilira Conrad ? Pl. 7, fig. 5

About a dozen incomplete specimens from Point St. Hilaire are available. They are all strongly worn and details of sculpture are not recognizable. They are slender, and some obviously reached a considerable size as indicated by steinkerns of late whorls with a diameter of 20 mm. The upper primary spiral is almost twice as wide as the lower one, and on relatively unworn areas it seems to be doubled. Between the primaries there are three secondary spirals. A single small fragment collected by Trechmann at Grand Bay seems to represent the same form.

Many names have been proposed for close relatives of *T. altilira altilira*. This fact makes an adequate identification of badly preserved specimens like those from Carriacou almost impossible. Full descriptions and synonymies of *T. altilira altilira* have been given by Woodring (1957, p. 102, pl. 23, figs. 1,7,12,13) and Olsson (1964, p. 193, pl. 36, figs. 2-2b).

Occurrence. — Grand Bay Formation: NMB localities 10109, 10703, 10704, 10732.

Family **ARCHITECTONICIDAE**

Genus **ARCHITECTONICA** Röding, 1798

Subgenus **ARCHITECTONICA** s.str.

Architectonica (Architectonica) nobilis karsteni Rutsch Pl. 6, figs. 5,6

1934. *Architectonica nobilis karsteni* Rutsch, Abh. Schweiz. Pal. Ges., Bde. 54 & 55, p. 44, pl. 1, figs. 8-10 (Miocene, Venezuela).
1935. *Solarium gatunense* Toula, Trechmann, Geol. Mag., vol. 72, No. 858, p. 549, pl. 21, figs. 21,22 (Miocene, Carriacou).
1965. *Architectonica (Architectonica) nobilis karsteni* Rutsch, Jung. Bull. Amer. Paleont., vol. 49, No. 223, p. 488, pl. 64, figs. 8-10 (Miocene, Venezuela). For additional citations see this publication.

Holotype. — NMB No. H 1836.

Type locality. — Punta Gavilán, Falcón, Venezuela. Punta Gavilán Formation.

This species is represented by about a dozen, partly fragmentary specimens from both the Belmont Formation and the Grand Bay Formation. The majority of them, however, has been collected at Trechmann's "Grand Bay cliff" locality. Most specimens measure only 20 to 25 mm in greatest diameter, but shells of Trechmann's collection reach 34 mm in greatest diameter. Although the specimens from Carriacou agree well in essential characters with shells from other localities, they all slightly differ in having rather inconspicuous wrinkles outside the pronounced umbilical groove.

Occurrence. — Kendace Member of Belmont Formation: NMB locality 10108. Grand Bay Formation: NMB localities 10709, 10710,10730,10812.

Distribution. — Daule Formation (middle Miocene)), Ecuador. Cantaure Formation (middle Miocene), Paraguaná Peninsula, Falcón, Venezuela. Punta Gavilán Formation (late Miocene), Falcón, Venezuela. Chagres Sandstone (late Miocene), Panama. Beds of late Miocene age of northwestern Panama and southeastern Mexico.

Family **EPITONIIDAE**

Genus **SCALINA** Conrad, 1865

Scalina kendacensis, n. sp. Pl. 6, figs. 7,8

Of medium size, slender; whorls strongly inflated; suture well incised; protoconch not preserved; early spire whorls sculptured by axials only; sculpture of later spire whorls reticulate. Axials lamellar, scalloped if not worn, and extended in uppermost part. Primary spirals five. On later spire whorls secondary spirals are intercalated on the lower halves of the whorls. Above the uppermost primary spiral there is a series of "spiral" threads. These are discontinuous, *i.e.* they are set off at each axial and run obliquely to the upper suture. Basal disc sculptured by straight radials and small spiral threads in their interspaces. Aperture almost circular.

Holotype. — NMB No. H 15433.

Dimensions of holotype. — Height 38.5 mm; maximum diameter 14.2 mm.

Type locality. — NMB locality 10793: Kendace Point. Kendace Member of Belmont Formation.

The holotype is a partly damaged specimen with seven spire whorls. On unworn areas the scalloped axials are well recognizable. In addition to the holotype this species is based on two paratypes from a different locality. One of them is a slender shell with seven early spire whorls. The axials are slightly thickened at irregular intervals.

Except for the type material there are three fragments identified as *Scalina* cf. *kendacensis*, n. sp. Two of them have been collected at NMB locality 10778 (Carriacou Formation) and one from NMB locality 10710 (Grand Bay Formation).

As far as known the Recent Western Atlantic *S. retifera* (Dall) (1889b, p. 312; 1902, pl. 30, fig. 9) is the only species of *Scalina* with scalloped axials similar to those of *S. kendacensis*. *S. retifera* is a smaller species, its sculpture is more regular, and it differs in details of sculpture below the upper suture. According to Clench and Turner (1950, p. 243, pl. 96, pl. 106, figs. 1-4) *S. retifera* ranges from North Carolina and the Gulf of Mexico south to Barbados and has been collected from depths of 14 to 120 fathoms.

The sculptural pattern of *S. kendacensis* is almost identical with that of *S. weigandi* (Böse) (*in* Böse and Toula, 1910, p. 228, pl. 12, fig. 8) from late Miocene deposits of Mexico. But *S. weigandi* has a larger apical angle and its whorls are somewhat stouter. According to specimens from the late Miocene Chagres Sandstone of Panama figured by Woodring (1959, p. 187, pl. 29, figs. 7,8) and Olsson (1967, p. 42, pl. 6, figs. 1,1a) the axials of S. *weigandi* are not scalloped. The basal disc of *S. kendacensis* is not so strongly sculptured as in *S. weigandi*.

In *S. pseudolcroyi* (Maury) (1925, p. 242; Woodring, 1928, p. 402, pl. 32, figs. 3,4) from the Bowden Formation of Jamaica the spiral sculptural element is stronger than the axial one. According to a topotype its whorls are stouter, less inflated, and the apical angle is somewhat larger than in *S. kendacensis*.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10789,10793.

Genus **STHENORYTIS** Conrad, 1863

Sthenorytis grenadinarum, n. sp. Pl. 7, figs. 1-4

Of medium size; whorls rapidly enlarging. Axials lamellar, more or less bent in an antispiral direction and extended in upper part to form shoulder. In the umbilical area some of the axials are fused and form a rudimentary basal disc. Number of axials on late whorls varies from 13 to 16. Spaces between axials smooth or with faint spiral grooves. Aperture circular, holostomatous.

Holotype. — NMB No. H 15434.

Dimensions of holotype. — Height 25.7 mm; maximum diameter 18.2 mm.

Type locality. — NMB locality 10708: tip of Tarlton's Point. Grand Bay Formation.

This species occurs at several localities of the Grand Bay Formation but is most abundant at the type locality (21 shells and fragments). One specimen has been collected from the Carriacou Formation. Most of them are somewhat worn and the extended axials at the shoulder are rarely preserved. The protoconch is missing in all the specimens. The most complete shell, the holotype, consists of 5½ whorls.

S. grenadinarum is most closely related to the rare Recent *S. pernobilis* (Fischer and Bernardi)(1857, p. 293, pl. 8, figs. 2,3) which ranges from North Carolina south to the Lesser Antilles, and may be its predecessor. According to Clench and Turner (1950, p. 224, pl. 97, figs. 1-7) *S. pernobilis* has been collected from depths of 73 to 155 fathoms. The main difference between the two species is that the fossils from Carriacou are smaller. *S. pernobilis* reaches 40 mm in height, whereas none of the shells of *S. grenadinarum* attains 30 mm in height. In addition there is a tendency towards more numerous axials in *S. grenadinarum*. The holotype has 16 axials on the body whorl, whereas some paratypes have only 13. Clench and Turner indicated 12 axials on the body whorl of S. *pernobilis,* but Fischer and Bernardi gave 14 to 15.

Woodring, (1959, p. 184, pl. 34, figs. 2,3) questionably identified a fragment from the late Miocene Toro Limestone Member of the Chagres Sandstone of the Panama Canal Zone as S. *pernobilis.* This fragment, however, is too incomplete for comparison.

Occurrence. — Carriacou Formation: NMB locality 10778. Grand Bay Formation: NMB localities 10706,10707,10708,10716, 10723,10732.

Family **ERATOIDAE**

Genus **TRIVIA** Gray, 1832

Trivia cf. suffusa (Gray) Pl. 7, figs. 6,7

1939. *Pusula (Niveria) suffusa jamaicensis* Schilder, Schilder, Abh. Schweiz. Pal. Ges., vol. 62, p. 10.

A single, worn shell from the Grand Bay Formation of Point St. Hilaire has been identified by Schilder as *Pusula suffusa jamaicensis.* The subspecific name *jamaicensis* was introduceed by Schilder (Fossilium Catalogus, pars 55, p. 95, 1932) as a *nomen novum* for close relatives of the Recent West Indian *T. suffusa* occurring as fossils in the Miocene of the Dominican Republic and Jamaica and in the Pliocene of Florida. Schilder did not give any reason for the introduction of that new name. The lack of relevant material prevents checking on this question.

The specimen from Carriacou has about the same dimensions and proportions as Recent shells of *T. suffusa* but is not preserved well enough to assign it to that species without doubt. Its dorsal surface is only partly preserved. The riblets are somewhat beaded at the edge of the dorsal furrow. The visible riblets number 20 on the outer lip and 18 on the inner lip.

Occurrence. — Grand Bay Formation: NMB locality 10109.

Trivia islahispaniolae Maury Pl. 7, figs. 8-11

1917. *Trivia islahispaniolae* Maury, Bull. Amer. Paleont., vol. 5, No. 29, p. 117, pl. 19, fig. 14 (Miocene, Dominican Republic).
1932. *Trivia islahispaniolae* Maury, Schilder, Fossilium Catalogus, pars 55, p. 108 (Miocene, Dominican Republic).

Shell small, globular; aperture narrow. Outer lip somewhat flaring posteriorly, sculptured by 22 to 24 riblets. Inner lip with about 20 riblets. Fossula moderately deep. Area above the concealed spire forms a small hump. There is no dorsal furrow except for faint indications posteriorly. Therefore, the riblets run without interruption across the dorsal surface.

Holotype. — No. 28784, Paleontological Research Institution (formerly No. 37040 Cornell University).

Type locality. — Bluff No. 3, Cercado de Mao, Dominican Republic (Cercado Formation).

This species is represented by four specimens from Grand Bay cliff. Two of them are fairly well preserved, the others are fragments. No topotypes of *T. islahispaniolae* are at hand, but the specimens from Carriacou perfectly agree with the original description and figure.

A closely related form has been described as *T. islahispaniolae petrela* by Olsson and Harbison (1953, p. 264, pl. 60, figs. 3-3d) from the Pliocene Caloosahatchee Formation of St. Petersburg, Florida. It is difficult to separate the two forms without comparing topotypes. The Floridian species is somewhat larger and less globular, and there seem to be differences in the convexity of the dorsal surface.

Occurrence. — Grand Bay Formation: NMB locality 10710.

Distribution. — Cercado Formation (middle Miocene), Dominican Republic.

Family CYPRAEIDAE

Genus MACROCYPRAEA Schilder, 1930

Macrocypraea aff. zebra (Linné) Pl. 8, figs. 1-3

1939. *Trona (Macrocypraea) trinitatensis* Mansfield, Schilder, Abh. Schweiz. Pal. Ges., vol. 62, p. 30, fig. 32 (specimen from Carriacou).

Of medium to large size, cylindrical; aperture narrow, widened below; outer lip with 34 to 40 elongate teeth; inner lip with 30 to 34 teeth; fossula deep and broad, crossed by long denticles. Columellar furrow narrower and shallow, also crossed by denticles. Basal extension of inner lip carries two to three long denticles.

Schilder (1939, p. 30, fig. 32) identified the specimen from Carriacou collected by E. Lehner at Point St. Hilaire as *M. trinitatensis* (Mansfield) (1925, p. 49, pl. 8, fig. 10). The type specimen of *M. trinitatensis* is an internal mould and all the specimens Schilder had at hand were also preserved only as internal moulds. They had been collected from the Guaracara Limestone Member of the Tamana Formation of Nariva Quarry, Trinidad.

In contrast to the internal moulds from Trinidad the specimen from Carriacou figured by Schilder and refigured here (Pl. 8, figs. 2,3) has much of its original shell preserved. Although possibly related to *M. trinitatensis* it seems almost impossible to consider it conspecific with *M. trinitatensis* on morphological grounds.

A much larger specimen from a later collection from virtually the same locality shows that the species from Point St. Hilaire should be compared with the Recent Caribbean *M. zebra* Linné (Abbott, 1954, p. 180, pl. 6d; Warmke and Abbott, 1961, p. 91, pl. 2e, pl. 16n), the type species of *Macrocypraea*. The fossil from Carriacou reaches similar dimensions but is less inflated than *M. zebra*. In addition the fossil has more denticles on the inner and outer lips, the fossula has a different shape, and the denticulation below it is not the same at all.

Occurrence. — Grand Bay Formation: NMB localities 10109, 10703.

Genus **PUSTULARIA** Swainson, 1840

Pustularia ? caribaea Schilder Pl. 8, figs. 4,5

1939. *Pustularia (Pustularia) caribaea* Schilder, Abh. Schweiz. Pal. Ges., vol. 62, p. 19, fig. 18.

Holotype. — NMB No. H 11260.

Type locality. — Belvedere, Carriacou (NMB locality 10108).

The holotype and only specimen of *P. caribaea* was collected by E. Lehner (EL 1625 = NMB locality 10108) from the Kendace Member of the Belmont Formation at Belvedere and is refigured here (Pl. 8, figs. 4,5). It is a small, moderately well-preserved specimen and the sculptural details are not recognizable which allow a definite assignment to the genus *Pustularia*. Among other things *Pustularia* is characterised by the presence of a dorsal furrow. However, there is no indication of such a furrow on the holotype of *P. caribaea*.

Schilder called the occurrence of *P. caribaea* the second unexpected find of a *Pustularia s.s.* in America, although he described two other species of *Pustularia s.s.* in the same paper. In *P. americana* Schilder (1939, p. 18, fig. 17) from the Miocene of Cuba no dorsal furrow is developed. The species is based on the holotype only, a well-preserved shell. *P. mejasensis* Schilder (1939, p. 18, fig. 16) from the upper Eocene of Mejas Quarry, Trinidad, is based on a single, incomplete, internal mould which should not have been used as type material. Schilder admitted that the systematic position of *P. mejasensis* is not certain.

It seems, therefore, that the presence of *Pustularia s.s.* in America as a fossil is still most questionable. However, the subgenus does occur fossil and living in the Indo-Pacific region.

Occurrence. — Kendace Member of Belmont Formation: NMB locality 10108.

Family **ATLANTIDAE**

Genus **PROTATLANTA** Tesch, 1908

Protatlanta species Pl. 21, figs. 15-17

A few specimens from various localities within the Kendace Member of the Belmont Formation are available. They are preserved as internal moulds and most of them are immature. No sculpture is recognizable on the surface. The early whorls are trochospiral, but the later whorls almost perfectly planispiral. Last preserved whorl moderately inflated.

Two fossil species of *Protatlanta* have so far been recorded from the Caribbean Tertiary: *P. rotundata* (Gabb)(1873b, p. 201; Pilsbry, 1922, p. 314, text-fig. 15) from the Cercado Formation of the Dominican Republic and *P. lissa* (Woodring,)(1928, p. 134, pl. 2, figs. 26,27) from the Bowden Formation of Jamaica and the Gatun Formation of the Panama Canal Zone (Woodring, 1959, p. 197, pl. 30, figs. 5,6). Pilsbry (1922, p. 314) proposed the subgenus *Atlantidea* for *P. rotundata* which, however, may be the same as *Protatlanta.*

The preservation of the fossils from Carriacou is insufficient for comparison with the named species.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108,10737,10753,10779.

Family **CARINARIIDAE**

Genus **CARINARIA** Lamarck, 1801

Carinaria species Pl. 20, fig. 11

A single fragmentary specimen from the Kendace Member of the Belmont Formation of Belvedere is available. It is even less complete than the form from the Ste. Croix Beds of Trinidad described by Rutsch (1934b, p. 317, pl. 8, fig. 9) as *Carinaria* sp.ind. The coiled part of the shell and the apertural portion are not preserved. The density of the transverse ribbing of the two forms is similar, but it cannot be decided whether they are conspecific or not.

The preserved portion of the specimen from Carriacou is similar in dimensions to that of the type of *C. caperata* Guppy (*in* Guppy and Dall, 1896, p. 318, pl. 27, fig. 14) from the Miocene shell bed of Ally Creek, Trinidad. But they are certainly not conspecific, because *C. caperata* has less, *i.e.* more distant transverse ribs.

Occurrence. — Kendace Member of Belmont Formation: NMB locality 10108.

Family **NATICIDAE**

Genus **POLINICES** Montfort, 1810

Polinices prolacteus Anderson ? Pl. 8, figs. 6,7

1935. *Natica (Polinices)* cf. *youngi* Maury, Trechmann, Geol. Mag., vol. 72, No. 858, p. 550, pl. 20, figs. 3-5.

Of small to medium size, with 4½ whorls including the protoconch which consists of about 1½ whorls. Spire low; apical angle large; spire whorls straight to slightly convex. Body whorl regularly convex except below suture where it is almost straight. Sculpture consists of faint growth lines only. No spiral striation; umbilicus moderately large. Umbilical callus moderately prominent, connected with thick parietal callus, not interrupted by transverse groove on callus. Aperture semilunar.

This form occurs abundantly in the Kendace Member of the Belmont Formation and in the Grand Bay Formation. All the specimens are somewhat worn, and sculptural details like spiral striation, if present on unworn shells, would not be recognizable.

The *Polinices* from Carriacou is characterised by the wide apical angle (low spire) and the lack of a transverse groove below the parietal callus. In these respects it strongly resembles *P. prolacteus* Anderson (1929, p. 124, pl. 14, figs. 8,9) from the early or middle Miocene Las Perdices Group of northern Colombia. Anderson mentioned faint spiral striation near the base but did not comment on the lack or presence of a transverse groove below the parietal callus. Because no topotypes are available and because the original description and figures are not clear enough, the identification of the Carriacou specimens must remain doubtful.

P. prolacteus resembles the Recent Caribbean *P. lacteus* (Guilding)(Warmke and Abbott, 1961, p. 94, pl. 17a). According to Weisbord (1962, p. 238, pl. 22, figs. 7,8) *P. lacteus* has a transverse groove below the parietal callus. On an average the fossils from Carriacou are somewhat smaller than the Recent species. Probably a close relative of *P. lacteus* is *P. ovalatus* Macsotay (1968, p. 90, pl. 3, figs. 4-8) from the upper Pliocene Guiria Formation of the Paria Peninsula, Venezuela. *P. ovalatus* is even smaller than the fossils from Carriacou and has a transverse groove below the parietal callus.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108,10698,10699,10789. Grand Bay Formation: NMB localities 10709,10710,10716, 10730.

Genus **SINUM** Röding, 1798

Sinum gabbi (Brown and Pilsbry) Pl. 9, fig. 6

1913. *Sigaretus (Eunaticina) gabbi* Brown and Pilsbry, Acad. Nat. Sci. Philadelphia, Proc., vol. 64, p. 509, pl. 22, fig. 13 (Miocene, Panama Canal Zone).
1935. *Sinum* cf. *quirosanum* Hodson, Trechmann, Geol. Mag., vol. 72, No. 858, p. 550 (Miocene, Carriacou).
1957. *Sinum gabbi* (Brown and Pilsbry), Woodring, U.S. Geol. Sur., Prof. Paper 306-A, p. 94, pl. 21, figs. 3,6 (Miocene, Panama Canal Zone).
1965. *Sinum gabbi* (Brown and Pilsbry), Jung, Bull. Amer. Paleont., vol. 49, No. 223, p. 508, pl. 68, figs. 3,4 (Miocene, Venezuela).

Of medium size; spire moderately low; shell consists of 4½ whorls of which 2¼ represent the smooth protoconch. Sculpture consists of spiral ridges of at least two magnitudes. Spirals sometimes interrupted by growth lines. Inner lip somewhat everted; parietal callus small and thin; umbilicus closed in adult shells.

Type. — Acad. Nat. Sci. Philadelphia, No. 3845.

Type locality. — Gatun Locks excavation, Panama Canal Zone (middle part of Gatun Formation).

This species is represented by five specimens from the Grand Bay Formation, two of which have been collected by Trechmann. As pointed out by Woodring (1957, p. 94) the height of the spire is somewhat variable. The figured specimen is not quite adult, its umbilicus not closed, and its spire is low compared with that of a large, incomplete shell from Tarlton's Point reaching almost 25 mm in height.

The Venezuelan early Miocene *S. quirosanum* F. Hodson (*in* Hodson, Hodson, and Harris, 1927, p. 67, pl. 36, figs. 10,12) may represent an ancestral form of S. *gabbi*. Essentially it is a smaller species with different proportions, *i.e.* the height is larger than the width. As stated by Woodring S. *nolani* Maury (1917, p. 139, pl. 24, fig. 1) from the middle Miocene Gurabo Formation of the Dominican Republic has a more inflated body whorl. The sculpture of S. *nolani* seems to be poorly developed compared with that of S. *gabbi*.

Occurrence. — Grand Bay Formation: NMB localities 10707, 10710.

Distribution. — Gatun Formation (middle Miocene), Panama Canal Zone. Cantaure Formation (middle Miocene), Paraguaná Peninsula, Falcón, Venezuela.

Family **CASSIDIDAE**

Genus **BATHYGALEA** Woodring and Olsson, 1957

Subgenus **MIOGALEA** Woodring and Olsson, 1957

Bathygalea (Miogalea) famulans, n.sp. Pl. 9, figs. 1-5

1935. *Agasoma* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 542, pl. 20, fig. 22.

Of small to medium size; shell moderately thick. Protoconch consists of about three rounded whorls; postnuclear whorls $4\frac{1}{2}$, shouldered. Shoulder carries sharp knobs. Spiral sculpture consists of fine threads, partly of two magnitudes. Number of knobs on shoulder of body whorl varies from nine to 11. Below the shoulder of the body whorl there are three rows of smaller knobs. Varix on body whorl preceding outer lip rarely developed. Outer lip thickened and reflexed, with indistinct ridges near base. Siphonal canal short, strongly bent. Siphonal fasciole swollen, bordered by a ridge posteriorly. Parietal callus and plate strong. Columellar lip with two oblique ridges.

Holotype. — NMB No. H 15444.

Dimensions of holotype. — Height 39.2 mm; width 29.4 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is based on seven specimens from the Grand Bay Formation, five of which were collected at the type locality. One incomplete shell from the Kendace Member of the Belmont Formation of Kendace Point shows the protoconch and four postnuclear whorls, but the outer lip and the siphonal canal are broken off. In addition there are four badly preserved specimens from "Grand Bay" collected by C. T. Trechmann, which are only questionably identified as *B. famulans*. The holotype is the largest and most complete specimen and the only one with a varix on the body whorl preceding the terminal varix. The ridges on the inner surface of the basal part of the outer lip are weak and hardly recognizable.

Woodring and Olsson (1957) assigned two species to the subgenus *Miogalea*: *B. dalli* (Anderson) (1929, p. 141, pl. 14, figs. 10-13) from the early Miocene Las Perdices shale near Puerto Colombia, northern Colombia, and *B. hadra* Woodring and Olsson (1957, p. 23, pl. 8, figs. 1,2) from the late Miocene Chagres Sandstone of Panama. *B. famulans* differs from both of these species by its smaller size, its higher spire, and the less inflated body whorl. In addition the knobs are more strongly developed in *B. famulans*. On one hand *B. famulans* has a fairly thick shell like *B. dalli*, on the other hand the ridges on the inner surface of the basal part of the outer lip are weak like those of *B. hadra*.

Abbott (1968, p. 95) included *Bathygalea* and *Miogalea* in the synonymy of *Echinophoria* Sacco, 1890, which in turn he treated as a subgenus of *Phalium*. This arrangement made it necessary to introduce a new name for *Cassis (Phalium) dalli* Anderson, 1929 (not *dalli* Dickerson, 1917). Abbott (*ibidem*, p. 107), therefore, renamed it *Phalium (Echinophoria) andersoni*.

Occurrence. — Kendace Member of Belmont Formation: NMB locality 10789. Grand Bay Formation: NMB localities 10710,10716, 10812.

Genus **CYPRAECASSIS** Stutchbury, 1837

Cypraecassis species Pl. 10, figs. 6,7

1935. *Cassis* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 543.

The specimen recorded by Trechmann from Grand Bay cliff as *Cassis* sp. is a poorly preserved fragment showing part of the spire, the upper half of the body whorl and the upper half of the outer lip. Later collections contain two additional, incomplete shells from Grand Bay cliff. All the specimens consist of about six whorls, and are sculptured by prominent, orthocline axials which are alined on successive whorls. On the body whorl these axials persist almost down to the base. Their interspaces are wide and show traces of spiral sculpture, especially near the base. The inner surface of the outer lip carries regularly spaced teeth. The parietal callus is moderately thick and sculptured by numerous, somewhat irregular ridges, and near the base by tubercles.

Trechmann compared his specimen with the Recent West African *C. crumena* (Bruguière). According to Abbott (1968, p. 72) the correct name of this form is *C. testiculus senegalica* (Gmelin) and its distribution is restricted to West African waters, whereas Clench and Abbott (1943, p. 3) and Flores (1966, p. 34) accepted Western Atlantic records.

C. testiculus senegalica has predominantly axial sculpture, especially in the area below the shoulder of the body whorl. The resemblance with the fossil from Carriacou, however, is not close, because the axials of the species from Carriacou are more pronounced, and not interrupted by spiral grooves on the lower half of the body whorl as in the Recent species.

The shells from Carriacou probably represent a new species but are unsatisfactory as type material.

Occurrence. — Grand Bay Formation: NMB locality 10710.

Genus **MORUM** Röding, 1798

Subgenus **CANCELLOMORUM** Emerson and Old, 1963

Morum (Cancellomorum) coxi (Trechmann) Pl. 8, figs. 8,9; Pl. 10, figs. 1-5

1935. *Oniscia coxi* Trechmann, Geol. Mag., vol. 72, No. 858, p. 543, pl. 21, fig. 17.

1935. *Oniscia* (?), Trechmann, Geol. Mag., vol. 72, No. 858, p. 553, pl. 20, fig. 29.

1967. *Morum (Cancellomorum) coxi* (Trechmann), Dance and Emerson, Veliger, vol. 10, No. 2, p. 96.

Of medium size, solid; protoconch consists of about two smooth whorls; postnuclear whorls four; suture indistinct; sculpture cancellate. Body whorl sculptured by 17 to 19 axial ribs and 11 to 13 spirals. Space between uppermost spiral and second spiral wider than the others. Second spiral forms an indistinct shoulder. Axials and spirals form beads at the intersections. Interspaces of axials sculptured by five to six fine axials which overrun the spirals. Outer lip thickened. Inner surface of outer lip carries nine or ten elongate denticles. Parietal callus thick, with pustules and lirae. Anterior canal short. Siphonal fasciole somewhat swollen, bordered by an indistinct ridge.

Holotype. — British Museum (Natural History), Dept. Palaeont., No. GG 4404.

Dimensions of holotype. — Height 26.0 mm; width 18.4 mm.

Type locality. — Grand Bay cliff, Carriacou (Grand Bay Formation).

M. coxi was based on a single specimen from the Grand Bay Formation of Grand Bay cliff. Later collections contain ten topotypes including fragments and two specimens from two other localities of the Grand Bay Formation.

M. harrisi Maury (1925a, p. 115, pl. 4, fig. 14) from the early Miocene of Rio Pirabas, Pará, Brasil, is based on internal moulds and its apertual features are unknown. The spire of *M. harrisi* is higher and its spirals are much stronger than its axials. In *M. coxi* spirals and axials are of similar size. *M. domingense* (G. B. Sowerby II)(1850, p. 47, pl. 10, fig. 3) from the middle Miocene Gurabo Formation of the Dominican Republic differs considerably from *M. coxi* by its pronounced shoulder and the smaller number of axials (11 to 13). It is more closely related to the Recent West Indian *M. dennisoni* (Reeve) (Dance and Emerson, 1967, p. 93, pl. 12, figs. 5-7) than to *M. coxi.* The lectotype of *M. domingense* has been figured by Pflug (1961, pl. 7, fig. 9, pl. 8. figs. 6,7).

M. macgintyi M. Smith (1937, p. 67, pl. 6, fig. 12) like *M. coxi* does not have a pronounced shoulder but has less spirals and axials on the body whorl and a different dentition on the inner surface of the outer lip. *M. macgintyi* was originally cited from the Pliocene of southern Florida, and Olsson and Petit (1964, p. 556, pl. 80, fig. 7), who refigured the holotype, questionably assigned it to Unit A.

Occurrence. — Grand Bay Formation: NMB localities 10707, 10708,10710.

Family **BURSIDAE**

Genus **BURSA** Röding, 1798

Subgenus **COLUBRELLINA** Fischer, 1884

Bursa (Colubrellina) species A Pl. 11, figs. 5-7

1935. *Bursa* [*Ranella*] sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 542, pl. 21, fig. 20. As *Bursa (Ranella)* cf. *amphitrites* Maury 1917, in explanation of plate, pl. 17, fig. 9.

Of medium size, rounded. Protoconch consists of about three smooth, rapidly enlarging whorls. Postnuclear whorls about four.

Varices almost alined on spire whorls, but set off on body whorl. Sculpture of spire whorls consists of a spiral row of beads near the lower suture and two spiral threads above it which carry small beads. Body whorl shouldered at primary spiral row of beads. Below it there is a second spiral row with smaller but still conspicuous beads. Towards the base the body whorl carries three or four additional, minor spirals. Apertural features not known. Parietal callus moderately strong. Siphonal fasciole swollen. Siphonal canal bent towards outer lip. Posterior canal short.

This form is represented by 14 mostly fragmentary specimens from the Grand Bay Formation. Although they are all strongly worn leaving the fine sculpture virtually unrecognizable, they are well characterised by the two spiral rows of beads on the body whorl.

The affinities of this species are difficult to determine due to the worn state of preservation and the lack of preserved outer lips. It seems to be related to *B. amphitrites* Maury (1917, p. 109, pl. 17, fig. 9) from the middle Miocene Gurabo Formation of the Dominican Republic, but is less strongly sculptured. In *B. amphitrite*s the lower spiral row of the body whorl is not so prominent as in the species from Carriacou. *B. mexicana* Perrilliat (1963, p. 19, pl. 4. figs. 18,19) from the middle Miocene Agueguexquite Formation of Mexico is less sculptured than *B. amphitrites* and resembles *Bursa* species A in this respect. *B. mexicana* is sculptured by minute spiral threads. A similar sculpture is recognizable on a few small, unworn areas of *Bursa* species A. The Carriacou species differs from *B. mexicana* by its smaller size and larger apical angle.

Occurrence. — Grand Bay Formation: NMB localities 10703, 1709,10710,10732.

Family **TONNIDAE**

Genus **MALEA** Valenciennes, 1832

Malea cf. **camura** Guppy Pl. 12, figs. 1,2

A single, incompletely preserved and somewhat crushed specimen from the Grand Bay Formation of Tarlton's Point is available. The early whorls are missing, the shell itself partly corroded and partly broken off. The outer lip is preserved and the body whorl is sculptured by 15 spiral bands below the weakly developed shoulder and four smaller spirals above it.

The type locality of *M. camura* Guppy (1866a, p. 287, pl. 17, fig. 9) is Bowden, Jamaica. As pointed out by Woodring, (1928, p. 312) and Woodring (1959, p. 209) topotypes are small, whereas specimens from the Cercado Formation and Gurabo Formation of the Dominican Republic are larger. In 1968 the writer collected a large internal mould of *M. camura* at Bowden which measures more than 70 mm in height, although the early whorls are missing.

The specimen from Carriacou measures 67 mm in height, but its state of preservation is insufficient for a proper identification. Its spire seems to be somewhat higher than that of *M. camura.*

Occurrence. — Grand Bay Formation: NMB locality 10707.

Family **FICIDAE**

Genus **FICUS** Röding, 1798

Ficus carriacouensis Trechmann Pl. 11, figs. 1-4

1935. *Ficus* [*Ficula*] *carriacouensis* Trechmann, Geol. Mag., vol. 72, No. 858, p. 543, pl. 21, fig. 16.

Of small to medium size, strongly inflated; spire moderately low. Protoconch slightly tilted, consisting of about 2½ smooth whorls. Postnuclear whorls about 2½. Body whorl inflated above but strongly constricted anteriorly. Sculpture of body whorl consists of 14 to 15 primary spirals with one to three spiral threads in their interspaces and numerous axials which are somewhat smaller than the primary spirals.

Holotype. — British Museum (Natural History), Dept. Palaeont., No. GG 4401.

Dimensions of holotype. — Height 36.7 mm; width 24.1 mm.

Type locality. — Grand Bay cliff, Carriacou (Grand Bay Formation).

This species is fairly common in the Grand Bay Formation, but occurs also in the Kendace Member of the Belmont Formation at Belvedere. The specimens from the Kendace Member are all badly preserved. On an average they are smaller than those from the Grand Bay Formation and are identified as *F. carriacouensis* with doubt only. The holotype is refigured here (Pl. 11, fig. 1). All the other specimens Trechmann had at hand have the siphonal canal broken off.

F. carriacouensis is smaller, has a stouter body whorl, *i.e.* it is more constricted anteriorly and has a somewhat higher spire than

F. carbasea (Guppy)(1866b, p. 580, pl. 26, fig. 7) from the late Miocene Springvale Formation of Trinidad. *F. carbasea* also occurs in the late Miocene of Venezuela and Panama and is wide-spread in middle Miocene deposits (Woodring, 1959, p. 212; Jung, 1965, p. 515). One early Miocene record is given by Woodring (1959, p. 212). *F. perplexa* Olsson (1964, p. 166, pl. 31, figs. 5,5a) from the Esmeraldas Formation of northwestern Ecuador needs comparison with *F. carbasea.*

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108, 10698, 10699. Grand Bay Formation: NMB localities 10109,10703,10707,10708,10709,10710,10716,10729,10730,10812.

Family **MURICIDAE**

Genus **CHICOREUS** Montfort, 1810

Subgenus **Chicoreus** *s.s.*

Chicoreus (Chicoreus) cornurectus (Guppy) Pl. 10, fig. 8,9

1876. *Murex cornurectus* Guppy, Quart. Jour. Geol. Soc. London, vol. 32, p. 521, pl. 28, fig. 4.
1935. *Murex* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 541, pl. 21, fig. 3.
1965. *Chicoreus (Chicoreus) cornurectus* (Guppy), E. H. Vokes, Tulane Stud. Geol., vol. 3, No. 4, p. 186, pl. 2, figs. 2a,b, text-figure 1. For further citations see that publication.

A single specimen was collected from the Grand Bay Formation of Point St. Hilaire. All the spines and part of the siphonal canal are broken. There are two axial swellings between the varices of late whorls. The fossil from Carriacou is somewhat less slender than those illustrated by Guppy and E. H. Vokes but is similar in proportions to that figured by Maury (1917, pl. 16, fig. 9).

Occurrence. — Grand Bay Formation: NMB locality 10703.

Distribution. — Early, middle, and late Miocene (see E. H. Vokes, 1965), p. 187).

Family **BUCCINIDAE**

Genus **CYMATOPHOS** Pilsbry and Olsson, 1941

Cymatophos glareosus, n. sp. Pl. 12, figs. 3-8

1935. *Phos costatus* Gabb, Trechmann, Geol. Mag., vol. 72, No. 858, p. 542, pl. 20, fig. 6.
1935. *Phos semicostatus* Gabb, Trechmann, Geol. Mag., vol. 72, No. 858, p. 542, pl. 20, fig. 7.

Of small size, moderately slender. Protoconch with about three smooth whorls. Postnuclear whorls five, rounded to slightly shouldered, especially on late whorls. Sculpture consists of 14 axial swellings and four to five spirals on the spire whorls. Interspaces of spirals with three to six minute spiral threads. Axials on body whorl somewhat irregularly spaced. Number of primary spirals on body whorl about 14. Outer lip with long lirations on inner surface. Columella straight, with a basal fold. Siphonal fasciole moderately swollen, bordered by a thread posteriorly and sculptured by growth lines and indistinct spirals.

Holotype. — NMB No. H 15454.

Dimensions of holotype. — Height 29.0 mm; width 15.2 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species occurs at several localities of the Grand Bay Formation. From the type locality alone it is represented by about 10 specimens and fragments. As to slenderness this species is rather variable. The body whorl is usually somewhat shouldered, but in some specimens it is regularly rounded. None of the protoconchs is preserved well enough to observe the sculpture on its latest portion.

C. glareosus differs from all the species assigned to *Cymatophos* by its smaller size and the weak sculpture on the siphonal fasciole. The fine secondary spiral sculpture is similar to that of *Metaphos pacificus* Olsson (1964, p. 154, pl. 25, fig. 6; pl. 26, figs. 1-1b) from the Esmeraldas Formation of northwestern Ecuador.

A species closely related and possibly conspecific with *C. glareosus* occurs at several localities of the Kendace Member of the Belmont Formation. All of the more than 20 specimens are poorly preserved. They are all smaller than *C. glareosus* and are listed as *C.* cf. *glareosus.*

Occurrence. — Grand Bay Formation: NMB localities 10109, 10706, 10707, 10709, 10710, 10716, 10729, 10730.

Cymatophos ? species Pl. 13, figs. 2, 3

Of small size, solid, stout. Protoconch with about three smooth whorls. Postnuclear whorls 4½, strongly inflated. Suture incised. Spire whorls sculptured by three to five primary spirals with secondary spirals in the interspaces on later whorls and many axial swellings. Body whorl with about 14 primary spirals and about 11 somewhat irregularly spaced axial swellings. Spaces between primary spirals of body whorl sculptured by one to five spiral threads. Outer lip with long lirations on inner surface. Columella with a basal fold. Siphonal fasciole slightly swollen, bordered posteriorly by a small ridge.

This species is represented from Grand Bay cliff by seven mostly immature or fragmentary specimens. They are of similar height as *C. glareous*, n.sp. but their apical angle is considerably larger, *i.e.* the whorls are stouter and more inflated. In addition the spiral sculpture is more pronounced in *C.* ? species. None of the available protoconchs is preserved well enough to recognize details.

Occurrence. — Grand Bay Formation: NMB locality 10710.

Genus **METAPHOS** Olsson, 1964

Metaphos ? species A Pl. 13, figs. 9, 10

Of medium size, slender. Protoconch consists of three smooth whorls. Postnuclear whorls evenly rounded, a little more than five. Sculpture consists of axial ridges, about 18 per whorl, and fine spiral threads. The axials tend to disappear on late whorls except for occasional varix-like ridges. Near the base of the body whorl there are a number of more prominent spirals. Siphonal fasciole little swollen, sculptured by fine spirals and bordered posteriorly by an inconspicuous ridge. Columella straight, with a basal fold. Inner surface of outer lip with long lirations. Outer lip somewhat thickened.

This species is represented by three more or less complete specimens from the Grand Bay Formation. The figured shell, which measures 31.2 mm in height, is the most complete one, but lacks part of the anterior canal. The three specimens are strongly worn and the fine spiral sculpture typical for *Metaphos* is difficult to recognize. This form may belong to the genus *Metaphos*, although it is unlike the species described by Olsson (1964, p. 154) from the Neogene of northwestern Ecuador.

Occurrence. — Grand Bay Formation: NMB localities 10109, 10710.

Family **FUSINIDAE**

Genus **FUSINUS** Rafinesque, 1815

Fusinus species A Pl. 13, fig. 1

A single large specimen from the Grand Bay Formation of Point St. Hilaire is available: height 94 mm, width 45 mm. The protoconch and the early spire whorls are missing and only part of the anterior canal is preserved. There are eight broad axials per whorl which gradually become less prominent on late spire whorls until they disappear entirely on the body whorl. The spiral sculpture consists of eight or nine ribs with one secondary thread in each interspace. Outer lip lirate on its inner surface. Inner lip smooth. Parietal callus thick. Anterior canal narrow.

In addition to the large shell described above there are two incomplete specimens from the same locality possibly representing young stages of the same species. The affinities of *Fusinus* species A to other species are difficult to determine.

Occurrence. — Grand Bay Formation: NMB locality 10109.

Family **OLIVIDAE**

Genus **OLIVA** Bruguière, 1789

Subgenus **OLIVA** *s.s.*

Oliva (Oliva) cf. cristobalcoloni Maury Pl. 13, fig. 6

Two specimens from the Grand Bay Formation of Point St. Hilaire are available. The figured specimen measures 48 mm in height; its outer lip is broken. The second specimen is a fragment representing the upper half of the shell. It measures 27.5 mm in width and must have had an estimated height of 75 mm.

This material is insufficient for a positive identification, but it might prove to be conspecific with *O. cristobalcoloni* Maury (1917, p. 67, pl. 10, fig. 15) from the middle Miocene Cercado Formation and Gurabo Formation of the Dominican Republic, if better specimens are available. The relationships of *O. cristobalcoloni* to other large Caribbean Miocene species of *Oliva* have been commented upon by Woodring (1964, p. 278).

Occurrence. — Grand Bay Formation: NMB locality 10109.

Subgenus **OMOGYMNA** Martens, 1897

Oliva (Omogymna ?) valens, n. sp. Pl. 13. figs. 7, 8

Of medium to large size, solid; spire high and concave. Protoconch with about three volutions. Postnuclear whorls four. Suture deeply channelled. Body whorl moderately inflated, with a depressed spiral band below the suture which is not visible on the spire whorls. Base of columella with three oblique folds; parietal wall with many plaits.

Holotype. — NMB No. H 15466.

Dimensions of holotype. — Height 41.2 mm; width 19.0 mm.

Type locality. — NMB locality 10703: Point St. Hilaire. Grand Bay Formation.

This species is based on eight specimens all of which have been collected from the Grand Bay Formation of the Point St. Hilaire area. Four of these specimens are smaller, somewhat more slender, and their spire is sunken due to crushing. All the shells are strongly worn and some are fragmentary. The anterior margin of the spiral band below the suture of the body whorl is often indistinct.

O. valens is related to *O. martensii* Dall (1890-1903, p. 1576, pl. 58, fig. 4, 1903; Gardner, 1926-1950, p. 380, 1937) from the early Miocene Chipola Formation of Florida, and to *O. gradata* Gabb (1873b, p. 215; Pilsbry, 1922, p. 335, pl. 23, figs. 10,11) from the middle Miocene Cercado Formation of the Dominican Republic. Essentially *O. valens* differs from these species by its considerably larger size.

Occurrence. — Grand Bay Formation: NMB localities 10109, 10703, 10730.

Subgenus **STREPHONELLA** Dall, 1909

Oliva (Strephonella ?) delata, n. sp. Pl. 14, figs. 1-4

1935. *Oliva* cf. *giraudi* Cossmann, Trechmann, Geol. Mag., vol. 72, No. 858, p. 544, pl. 21, fig. 2.

Of medium size, solid; protoconch with about two volutions; postnuclear whorls four; spire moderately high, straight to slightly concave in profile; suture deeply channelled; line of body whorl situated a little below the middle of its height; columellar lip and parietal callus with many plaits.

Holotype. — NMB No. H 15468.

Dimensions of holotype. — Height 31.8 mm; width 13.3 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is based on about 40 specimens from the Grand Bay Formation. All of them are strongly worn leaving the spiral line below the middle of the body whorl often indistinct. Although all the specimens represent the same species, many of them are not preserved well enough to serve as type material.

O. delata is provisionally assigned to the subgenus *Strephonella* because of the spiral line on the body whorl. But this assignment is questionable as all the known species of *Strephonella* are much smaller than *O. delata.* The type species of *Strephonella,* the Recent Eastern Pacific *O. undatella* Lamarck (Keen, 1958, p. 422, fig. 627), is only about 12 mm high. The largest specimen of *O. undatella* at hand measures 16.5 mm in height. The Miocene *O. plicata* Guppy (*in* Guppy and Dall, 1896, p. 308, pl. 30, fig. 2; Woodring, 1964, p. 278, pl. 45, figs. 4-7) is an even smaller species than *O. undatella.* Woodring (1964, p. 278) included *O. dimidiata* Pilsbry and Johnson (1917, p. 165; Pilsbry, 1922, p. 336, pl. 23, fig. 8) from the Miocene of the Dominican Republic in the synonymy of *O. plicata,* but he excluded *O. dimidiata* G. B. Sowerby I (*in* Darwin, The Geology of the Voyage of the *Beagle,* pt. 3. Geological observations on South America, p. 263, London, 1846). In a German translation of the work *O. dimidiata* G. B. Sowerby I was figured (Darwin's gesammelte Werke, Band 12, p. 385, pl. 4, figs. 76,77, Stuttgart, 1878). According to these illustrations *O. dimidiata* G. B. Sowerby I is also a species of *Strephonella.*

O. robesonensis Gardner (1943-1948, p. 258, pl. 38, figs. 16,17, 1948) from the late Miocene Duplin marl of North Carolina is also a species of *Strephonella.* It is somewhat larger than the species mentioned above.

Occurrence. — Grand Bay Formation: NMB localities 10109, 10703,10704,10707,10709,10710,10716,10729,10730,10732.

Genus **JASPIDELLA** Olsson, 1956

Jaspidella ? balba, n. sp. Pl. 14, figs. 7-9

1935. *Olivella* cf. *boussaci* Cossmann, Trechmann, Geol. Mag., vol. 72, No. 858, p. 544, pl. 21, fig. 1.

Of medium to large size, slender; spire high; whorls about five; sutures channelled, narrow, and somewhat appressed to preceding whorl; aperture narrow; outer lip smooth within; parietal callus absent. Pillar structure consists of a basal thickening, which carries about three oblique ridges. These ridges are followed posteriorly by numerous oblique lirations. Posterior margin of fasciolar band indistinct.

Holotype. — NMB No. H 15470.

Dimensions of holotype. — Height 17.6 mm; width 6.8 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species forms a conspicuous element in the fauna from Grand Bay cliff being represented by more than 50 specimens. For this reason it is formally described, although there are considerable doubts as to its generic assignment. All the specimens are strongly worn. Although present the protoconchs are too poorly preserved for description. The posterior margin of the fasciolar band is only indicated on a few specimens.

J. ? *balba* has a narrower aperture, is somewhat larger and more slender than the type species of *Jaspidella*, the Recent West Indian *J. jaspidea* (Gmelin)(Olsson, 1956, p. 212, pl. 15, figs. 1,1a). *J. sanctidominici* (Maury)(1917, p. 69, pl. 11, fig. 4) from the middle Miocene Gurabo Formation of the Dominican Republic is a smaller species with a lower spire.

A few poorly preserved specimens from the Kendace Member of the Belmont Formation of Belvedere are listed as *Jaspidella* ? spec.

Occurrence. — Grand Bay Formation: NMB localities 10109, 10710.

Family **MITRIDAE**

Genus **MITRA** Röding, 1798

Mitra aff. mauryae Anderson Pl. 14, figs. 5, 6

A locality in the Grand Bay Formation situated about 400 meters south of Grand Bay cliff (probably the same as Trechmann's "half a mile south of Grand Bay Village") has yielded two incomplete specimens of a slender *Mitra* resembling *M. mauryae* Anderson (1929, p. 130, pl. 8, figs. 4,5) from the early or middle Miocene Las Peridices group of northern Colombia. Their sculpture consists of 22 straight axials with narrower interspaces and seven rounded spirals on spire whorls, which are separated by incised lines. Towards the anterior canal the axials disappear and the spirals become broader. Columella with four oblique plications.

A cast of the type of *M. mauryae* is at hand. The form from Carriacou is more slender, the whorls less shouldered, and the anterior canal is longer. In addition *M. mauryae* has less axials with wider interspaces.

Mitra mauryi (*sic*) Olsson (1916, p. 11. pl. 2, figs. 14,15) from the Miocene of Virginia is probably not congeneric with *M. mauryae*

Anderson. If this is so, the latter does not need a new name.

Occurrence. — Grand Bay Formation. NMB locality 10812.

Mitra limata, n. sp. Pl. 14, figs. 10, 11

Of medium size, slender; protoconch unknown; whorls straight to slightly convex in profile. Sculpture of spire whorls consists of six spiral bands, which are separated by narrow grooves. Axial sculpture absent except for inconspicuous growth lines. Body whorl with 17 spiral bands. Anterior canal moderately long. Columella with three oblique folds and a fourth rudimentary fold in front of them.

Holotype. — NMB No. H 15474.

Dimensions of holotype. — Height 21.0 mm; width 8.2 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is based on three specimens from the type locality and a worn shell from Tarlton's Point. No protoconch is preserved. All the specimens are incomplete. The holotype is a shell with 3½ whorls, and one of the paratypes is an immature specimen. A poorly preserved specimen from Point St. Hilaire is listed as *M.* cf. *limata,* n.sp.

M. limata is related to the middle Miocene *M. coralliophila* Olsson (1922, p. 103, pl. 6, figs. 18,24) from Puerto Limón, Costa Rica. *Mitra coralliophila* is a somewhat smaller species, the interspaces of its spiral bands are wider, and there is a fine axial sculpture in these interspaces which is lacking in *M. limata. M. almagrensis* Toula (1911, p. 481, pl. 29, fig. 13) from the Pliocene of the Isthmus of Tehuantepec, Mexico, is a considerably larger species with much narrower spirals. *M. quemadica* Maury (1917, p. 75, pl. 11, fig. 12) from the middle Miocene Gurabo Formation of the Dominican Republic is larger and stouter, and has more pronounced axial sculpture. *M. quemadica* is thought to be a synonym of *M. rudis* Gabb (1873b, p. 220) by Pilsbry (1922, p. 340, pl. 24, figs. 4,5) *M. limata* also shows some resemblance to *M. acteoglypha* Gardner (1926-1950, p. 406, pl. 48, fig. 5, 1937) from the early Miocene Chipola Formation of Florida. *M. acteoglypha,* however, has more columellar folds, more spirals, and its suture is more prominent.

Occurrence. — Grand Bay Formation: NMB localities 10109 (cf.), 10709,10710.

Mitra species A Pl. 13, figs. 4, 5

A single specimen of a slender species of *Mitra* from the Grand Bay Formation of Grand Bay cliff is available. It is relatively complete but so strongly worn that virtually no sculpture is recognizable. Six whorls are preserved, and on less eroded areas indications of spiral grooves are visible. Whorls somewhat shouldered. Anterior canal moderately long. Columella with three folds. Protoconch not preserved. Height 31.1 mm; width 10.2 mm.

Occurrence. — Grand Bay Formation: NMB locality 10710.

Genus **CONOMITRA** Conrad, 1865

Conomitra lehneri, n. sp. Pl. 14, figs. 12-16

Of medium size, biconic in outline. Protoconch consists of two smooth volutions. Postnuclear whorls six, shouldered near posterior suture. Spire whorls straight below shoulder, sculptured by about 30 axial ridges. Spiral sculpture inconspicuous on spire whorls and upper part of body whorl. On the lower part of the body whorl there are several more prominent spirals, but the axials disappear. Aperture long and narrow; inner surface of outer lip smooth; columella with four folds; siphonal fasciole slightly swollen; siphonal canal moderately long.

Holotype. — NMB No. H 15460.

Dimensions of holotype. — Height 24.8 mm; width 10.1 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is based on 30 partly fragmentary specimens, all of which have been collected at the type locality. No exact locality is given for two poorly preserved specimens in the Trechmann collection, but they were probably collected at Grand Bay cliff as well. Most of the specimens are rolled and the spiral sculpture is recognizable only on uneroded areas. Where observable the prominence of the spiral sculpture is somewhat variable.

C. lehneri is larger and has a higher spire than any of the Tertiary Caribbean species of *Conomitra.* In dimensions, proportions, and the type of sculpture it resembles *C. apalachee* Gardner (1926-1950, p. 420, pl. 48, fig. 36, 1937) from the Chipola Formation of

Florida. The spirals of *C. apalachee* are restricted to the interspaces of the axials, whereas in *C. lehneri* they cross the axials. *C. lehneri* is also similar to and should be compared with *C. angulata* (Heilprin)(1887, p. 110, pl. 15, fig. 47) from the Tampa Limestone of Florida. According to Mansfield (1937, p. 111) the shell figured by Dall (1915, pl. 10, fig. 2) as *C. staminea* Conrad represents *C. angulata.*

Occurrence. — Grand Bay Formation: NMB locality 10710.

Family **VOLUTIDAE**

Genus **ENAETA** H. and A. Adams, 1853

Enaeta trechmanni, n. sp. Pl. 15, figs. 1-3

Of medium size, of stout appearance. Protoconch consists of almost three smooth, high volutions. Postnuclear whorls four, sculptured by 18 axials, which are practically alined on successive whorls. Spiral sculpture absent. Suture appressed. Body whorl with an indistinct sutural collar. Sutural area of body whorl and penultimate whorl somewhat concave; remainder of spire whorls straight in profile. Aperture moderately wide. Outer lip thickened, with a strong denticle just above the middle of its inner side. Siphonal fasciole little swollen. Parietal callus strong; columella with four folds; siphonal canal short.

Holotype. — NMB No. H 15462.

Dimensions of holotype. — Height 20.5 mm; width 10.4 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is based on three specimens from the type locality. They are all worn and no spiral sculpture is observable, although there may have been fine spirals. The holotype lacks the protoconch, and the figured paratype has the basal part of the columella broken off. The third specimen of the type lot is a fragment representing a worn protoconch and the spire whorls.

E. trechmanni is closely related to *E. ecnomia* Woodring (1964, p. 289, pl. 46, figs. 2,3) from the middle Miocene Gatun Formation of Panama. Both have comparable dimensions and the same number of axials per whorl. The species from Carriacou is more slender and has a higher spire than *E. ecnomia.* The spiral bordering the siphonal fasciole is stronger in *E. ecnomia.* The Recent Eastern Pacific *E.*

barnesii (Gray)(Keen, 1958, p. 432, fig. 665) — the type species of *Enaeta* — is more closely related to *E. ecnomia* than to *E. trechmanni. E. barnesii* essentially is larger and stouter than *E. trechmanni.*

Except the type lot of *E. trechmanni* there is an immature specimen from the same locality representing an unidentifiable species of *Enaeta*. Three whorls are preserved including the body whorl (height 13.6 mm). It is more slender than *E. trechmanni* and resembles *E. perturbatrix* (Maury)(1917, p. 76, pl. 14, figs. 1,2) from the Gurabo Formation of the Dominican Republic in this respect but has heavier axials. It also resembles the Recent *E. guildingii* (G. B. Sowerby I), which is known from the West Indies and northern Brazil. The lectotype of *E. guildingii* has been figured by Weaver and du Pont (1970, p. 27, pl. 7C,7D). The fragment from Carriacou is listed as *Enaeta* species.

Occurrence. — Grand Bay Formation: NMB locality 10710.

Family **TURRIDAE**

Genus **AFORIA** Dall, 1889

Aforia aff. **ecuadoriana** Olsson Pl. 16, fig. 12

1935. *Pleurotoma (Surcula)* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 547, pl. 21, fig. 14.

Of large size, solid. Spire with about ten whorls. Suture indistinct. Whorls somewhat shouldered medially. Sinus situated a little below suture. Area between shoulder and suture concave. Sculpture consists of indistinct spiral threads above and below shoulder. Anterior canal almost straight.

This species occurs at Grand Bay cliff but is represented only by a few specimens. The shell figured by Trechmann (1935, pl. 21, fig. 14) is the most complete one. Specimens from later collections have their tips and anterior canals broken. Their surface is strongly corroded and the sculpture therefore difficult to recognize.

Apparently the only fossil species of *Aforia* described from the Tertiary Caribbean province is *A. ecuadoriana* Olsson (1964, p. 112, pl. 17, figs. 2,2a) from the late Neogene Esmeraldas Formation of northwestern Ecuador. *A. ecuadoriana* is more slender than the fossil from Carriacou, and its shoulder is more pronounced. In his diagnosis for the genus *Aforia* Powell (1966, p. 43) stated that the spiral sculpture is restricted to the lower part of the whorls and to the base. In the species from Carriacou, however, the spiral sculpture is also developed above the shoulder. Although to a lesser degree, the same is true for *A. ecuadoriana*.

Recent species of *Aforia* range from Japan and the Aleutian chain along the continents of North America and South America to Antarctic waters and have been collected from depths between 60 and 1500 fathoms. According to Powell (1966, p. 44) "the distributional pattern of the genus is an excellent example of 'bipolarity' by the process of going deep under equatorial waters . . . ". Olsson (1964, p. 17) interpreted the occurrence of *Aforia* in the Esmeraldas Formation of Ecuador as "more suggestive of a cold water habitat than one of great depth". Other occurrences of fossil species of *Aforia* have been recorded by Moore (1963, p. 47) and Addicott (1966, p. 641) from the Oligocene (?) and Miocene of Oregon and Washington.

If the generic assignment of the species from Carriacou is correct, its occurrence there is surprising and would point to a deeper water environment.

Occurrence. — Grand Bay Formation: NMB locality 10710.

Genus **POLYSTIRA** Woodring, 1928

Polystira opulenta, n. sp. Pl. 15, figs. 4-7

1935. *Pleurotoma* cf. *haitensis* G. B. Sowerby I, Trechmann, Geol. Mag., vol. 72, No. 858, p. 546, pl. 21, fig. 15.

Of medium to large size, solid, moderately slender; protoconch missing; spire whorls about eight. Early sculpture consists of two primary spirals, the peripheral one being larger. On later spire whorls a secondary spiral is developed near the anterior suture and tertiary spiral threads near the posterior suture. Body whorl sculptured by the peripheral spiral, one somewhat smaller spiral above it, and two spirals of equal size below it. In front of these two spirals there is a narrower but deeper interspace and two closely set, keel-like spirals, which are followed by a deep, broad interspace bordered anteriorly by another prominent spiral. Anterior canal moderately long, sculptured by a few spiral threads dorsally. Axial sculpture consists of growth lines.

Holotype. — NMB No. H 15482.

Dimensions of holotype. — Height 42.0 mm; width 17.7 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

P. opulenta occurs abundantly at the type locality but less so at other localities of the Grand Bay Formation. It is mainly characterised by its prominent sculpture on the lower part of the body whorl. Although no complete specimens are available, it is estimated that an undamaged, adult shell would have reached a height of almost 70 mm.

The early sculpture of *P. opulenta* is practically the same as that of *P. barretti* (Guppy)(1866a, p. 290, pl. 17, fig. 6; Woodring, 1928, p. 146, pl. 4, figs. 6,7) from the Bowden Formation of Jamaica, the holotype of which has been refigured by Pflug (1961, pl. 20, figs. 1,4). *P. barretti,* however, reaches a larger size and its sculpture on the body whorl is entirely different from that of *P. opulenta.* The prominence of the primary sculpture of *P. opulenta* is more like that of *P. oxytropis ecuadoriana* Olsson (1964, p. 91, pl. 14, figs. 5-5b) from the late Neogene Esmeraldas Formation of northwestern Ecuador, but the spiral sculpture of the body whorl characteristic for *P. opulenta* is not developed in *P. oxytropis ecuadoriana.*

Occurrence. — Grand Bay Formation: NMB localities 10109, 10703,10710,10716,10730.

Genus **PARABORSONIA** Pilsbry, 1922

Paraborsonia varicosa (G. B. Sowerby II) Pl. 16, figs. 1-3

1850. *Mitra varicosa* G. B. Sowerby II, Quart. Journ. Geol. Soc. London, vol. 6, p. 46.
1873. *Cordiera varicosa* (Sowerby), Gabb, Amer. Philos. Soc., Trans., new ser., vol. 15, p. 210.
1917. *Borsonia varicosa* (Sowerby), Maury, Bull. Amer. Paleont., vol. 5, No. 29, p. 51, pl. 8, fig. 9.
1922. *Borsonia (Paraborsonia) varicosa* (Sowerby), Pilsbry, Acad. Nat. Sci. Philadelphia, Proc., vol. 73, p. 325, pl. 17, figs. 19-21.
Not 1925. *Borsonia varicosa* (Sowerby), Maury Bull. Amer. Paleont., vol. 10, No. 42, p. 192, pl. 34, fig. 7.
1935. *Borsonia* cf. *brassoensis* Mansfield, Trechmann, Geol. Mag., vol. 72, No. 858, p. 548, pl. 20, figs. 9,10.

Shell large for the genus, moderately slender. Spire high. Protoconch and early sculptured whorls missing. Sculpture of spire whorls consists of two granulated, primary spirals, the anterior one doubled, and about three secondary spirals between them. On the penultimate whorl there may be two or three additional secondary and tertiary spirals in front of the doubled spiral. Body whorl with numerous granulated spirals, usually of alternating size, and tertiary threads occasionally. Axial sculpture inconspicuous. Anal sinus deep; inner surface of outer lip lirate; columella with two folds; anterior canal slightly twisted near base.

Type. — Missing in British Museum (Natural History), Dept. of Palaeontology.

Type locality. — Dominican Republic (Miocene).

This species is fairly abundant in the Grand Bay Formation being represented by 23 specimens from Grand Bay cliff alone. All the shells are strongly corroded, however, leaving sculptured details unrecognizable. The apical angle is somewhat variable.

The specimens from Carriacou reach the dimensions of *P. cantaurana* (Jung)(1965, p. 572, pl. 77, figs. 11-14) from the middle Miocene Cantaure Formation of the Paraguaná Peninsula, Venezuela. *P. cantaurana* differs from *P. varicosa* by its consistently less granulated sculpture, but a series of topotypes of *P. varicosa* might show that they are the same species. The sculpture of the shells from Carriacou is more like that of *P. varicosa*, whereas their dimensions and proportions are more similar to those of *P. cantaurana.*

Occurrence. — Grand Bay Formation: NMB localities 10109, 10111,10710,10716,10812.

Distribution. — Miocene of the Dominican Republic.

Paraborsonia laeta, n. sp. Pl. 16, figs. 4, 5

1935. *Borsonia* Trechmann, Geol. Mag., vol. 72, No. 858, p. 549, pl. 21, fig. 13.

Of medium size, biconic, solid; protoconch missing; spire moderately high; apical angle large. Peripheral spiral projecting, with pointed beads, undivided, but sometimes carrying two fine spirals. Spire whorls with a subsutural beaded spiral, which is less prominent than the peripheral spiral. On late spire whorls the subsutural spiral is divided into two and sometimes even into three parts. Between the two primary spirals there are a few secondary spirals. Body whorl with numerous beaded spirals, which are alternating in size. Anal sinus deep; inner surface of outer lip lirate. Columella with two folds, sometimes with the indication of a third one below them. Anterior canal almost straight, only slightly twisted near base.

Holotype. — NMB No. H 15480.

Dimensions of holotype. — Height 22.0 mm; width 10.6 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is represented by nine shells from the type locality and a few poorly preserved specimens from another locality of the Grand Bay Formation.

P. laeta is related to *P. cocoensis* (Olsson)(1922, p. 78, pl. 5, figs. 23,24) from the middle Miocene Gatun Formation of the Bocas del Toro Province, western Panama. Both species have a prominent peripheral spiral and similar proportions. *P. laeta,* however, is larger and has a divided subsutural spiral but an undivided peripheral spiral which is not the case in *P. cocoensis. P. brassoensis* (Mansfield)(1925, p. 30, pl. 5, fig. 8) from the Brasso Formation of Trinidad is also a species of *Paraborsonia* with a large apical angle, but it is easily distinguished from *P. laeta* by the flat-topped beads of its spiral sculpture.

Occurrence. — Grand Bay Formation: NMB localities 10710, 10812.

Genus **MITRATOMA** Olsson, 1930

Mitratoma insularum, n. sp. Pl. 16, figs. 6-8

Of medium to large size, biconic; protoconch and early postnuclear whorls unknown; whorls shouldered. On spire whorls the shoulder is sculptured by obliquely elongated nodes, but on the shoulder of the last whorl they are absent or only rudimentary. Anal sinus broad and deep. Anal fasciole concave, sculptured by a subsutural spiral and a second but smaller spiral. Body whorl sculptured by about a dozen flat-topped spiral bands which are bordered by sharp, incised lines. On late spire whorls one or two of these spiral bands are visible. Anterior canal straight. Outer lip thin, its inner surface strongly lirate. Columella with three or four folds, the anterior ones small and indistinct.

Holotype. — NMB No. H 16490.

Dimensions of holotype. — Height 37.6 mm; width 13.7 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is based on three specimens from the type locality, one of which has only its last whorl preserved. The holotype consists of five whorls, its anterior canal is complete, but the tip broken.

The surface of all three specimens is somewhat eroded and sculptural details are, therefore, not recognizable.

So far the genus *Mitratoma* is known only from its type species, *M. bartschi* (Olsson)(1930, p. 38, pl. 4, figs. 6-9), from the late Eocene Talara Formation of Peru. Olsson originally described *Mitratoma* as a subgenus of the borsoniine genus *Scobinella,* but Powell (1966, p. 62) gave it generic rank. *Mitratoma* is distinguished from *Scobinella* mainly by the lack of axial sculpture on the body whorl.

M. insularum differs from *M. bartschi* by its much larger size. The holotype of *M. insularum* is more than twice as high as the holotype of *M. bartschi.* In addition *M. bartschi* has less and proportionately wider spiral bands on the body whorl. But otherwise the type of sculpture of both species is identical.

Occurrence. — Grand Bay Formation: NMB locality 10710.

Genus **CARITOMA,** n. gen.

Type species: *Caritoma antillarum,* n. sp. Miocene, Carriacou, Grenadines.

Of medium size; spire high, moderately slender; anterior canal long and straight. The whorls are characterised by a flangelike, peripheral carina which is situated near the anterior suture. This carina carries numerous tubercles. Spiral sculpture inconspicuous above the carina but more prominent below it. Anal sinus moderately deep, with a narrow apex, which is situated on the peripheral carina. Columella with a prominent fold. Inner surface of outer lip with a few lirae at some distance from the aperture.

Caritoma is a borsoniine genus characterised by the peripheral position of the apex of the anal sinus and the presence of a strong columellar fold. The same features are characteristic of the genus *Bathytoma* Harris and Burrows, 1891 (Powell, 1966, p. 63). Species of *Bathytoma,* however, are much larger than *C. antillarum,* n.sp. and lack a prominent peripheral carina.

Caritoma antillarum, n. sp. Pl. 16, figs. 9-11

1935. *Pleurotoma (Clinura* ?) sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 548, pl. 20, fig. 14.

Of medium size; spire high; protoconch and early whorls missing. The primary spiral sculpture consists of a flangelike peripheral carina near the anterior suture which carries numerous tubercles. In addition there is another spiral of secondary size near the posterior suture and numerous tertiary threads. Body whorl sculptured by two prominent spirals below the peripheral carina and numerous minor threads. Anterior canal long and straight. Anal sinus moderately deep, its apex situated on the peripheral carina. Inner surface of outer lip with a few lirae at some distance from the aperture; columella with a prominent fold.

Holotype. — NMB No. H 15484.

Dimensions of holotype. — Height 32.4 mm; width 14.7 mm.

Type locality. — NMB locality 10812: about 400 meters south of Grand Bay cliff. Grand Bay Formation.

The holotype of *C. antillarum* is the most complete specimen available. It has seven spire whorls preserved and an almost complete anterior canal. All the 12 paratypes are fragmentary showing a few spire whorls and parts of the anterior canal. So far *C. antillarum* seems to be the only species of *Caritoma.*

Occurrence. — Grand Bay Formation: NMB localities 10706, 10710,10812.

Genus **CRASSISPIRA** Swainson, 1840

Crassispira cf. henekeni *(G. B. Sowerby I) Pl. 17, figs. 1, 2

1935. *Pleurotoma (Drillia)* cf. *heneckeni* [*sic*] G. B. Sowerby I, Trechmann, Geol. Mag., vol. 72, No. 358, p. 547, pl. 20, fig. 18.

The few specimens from the Grand Bay Formation are too incomplete and too imperfectly preserved for a positive identification. The specimen figured by Trechmann has its anterior canal broken. Its whorls are sculptured by eight swollen, somewhat oblique axials, whereas the shell figured here has ten axials. The axials are crossed by five or six spirals. Anal fasciole sculptured by a subsutural spiral and a few faint spiral threads. Anal sinus deep, situated below subsutural spiral. Anal node well developed on figured specimen.

Occurrence. — Grand Bay Formation: NMB locality 10710.

Genus **HINDSICLAVA** Hertlein and Strong, 1955

Hindsiclava consors (G. B. Sowerby II) Pl. 17, figs. 3-5

1850. *Pleurotoma consors* G. B. Sowerby II, Quart. Journ. Geol. Soc. London, vol. 6, p. 50.

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*Corrected spelling for *Henikeri* G. B. Sowerby I, 1850, Quart. Jour. Geol. Soc. London, vol. 6, p. 44. Named for Heneken.

1961. *Crassispira consors* (Sowerby), Pflug, Acta Humboldtiana, ser. geol. et palaeont., No. 1, p. 67, pl. 19, figs. 4,7,10. For additional citations see that publication.

This species is represented by a few incomplete specimens from the Grand Bay Formation. The surface of their shells is eroded leaving sculptural details obscure. The axial sculpture is more prominent than the spirals. The anal node is present on the figured specimen only.

H. consors and closely related species are wide-spread in Neogene deposits of the Tertiary Caribbean faunal province. Its similarity to the Recent Eastern Pacific *Pleurotoma militaris* Reeve has already been pointed out by Sowerby, and Gabb (1873b, p. 207) even identified specimens from the Miocene of the Dominican Republic as *H. militaris. H. militaris,* the type species of *Hindsiclava,* has recently been discussed by Emerson and Radwin (1969, p. 150, pl. 28, figs. 1-4, text figs. 1-2), who were the first to refer *Pleurotoma consors* to the genus *Hindsiclava. H. militaris* has also been recorded from the late Neogene Esmeraldas Formation of northwestern Ecuador by Olsson (1964, p. 97, pl. 17, figs. 3-3b).

Many descriptions and figures have been published under the name of *consors* which may represent different species. On the other hand several taxa have been described which might be synonyms of *H. consors* or were based on unsatisfactory material. Only the study of the relevant materials will allow for the recognition of differences and relationships.

The lectotype of *H. consors,* which has been figured by Pflug (1961, pl. 19, figs. 4,10), is a slender specimen with relatively high whorls, whereas those from the Punta Gavilán Formation of the State of Falcón, Venezuela, figured by Rutsch (1934a, p. 99, pl. 8, figs. 13-16) have a stouter appearance and probably do not represent *H. consors.*

Occurrence. — Grand Bay Formation: NMB localities 10703, 10710,10812.

Family **CONIDAE**

Genus **CONUS** Linné, 1758

Conids are abundant in the Grand Bay Formation and also at some localities of the Kendace Member of the Belmont Formation. Unfortunately their state of preservation is unsatisfactory in most cases, a circumstance which renders their identification most difficult in view of the large number of described taxa. For this reason and because of insufficient comparative material the following species are identified provisionally by using open nomenclature.

Conus cf. consobrinus G. B. Sowerby II Pl. 17, fig. 6

1935. *Conus (Lithoconus* or *Leptoconus)* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 545, pl. 21, fig. 6.
?1935. *Conus (Chelyconus ?)* sp., Trechmann, *ibidem*, pl. 21, fig. 7.

This species occurs in the Grand Bay Formation and is characterised by the tubercles on the shoulder of the whorls. On only little eroded areas the anal fasciole is seen to carry a few spirals. Immature specimens are sculptured by numerous spiral grooves below the shoulder of their last whorl, whereas on adults the spiral sculpture is restricted to the anterior portion of the body whorl.

The tubercles on the shoulder disappear on late whorls of *C. consobrinus* (lectotype figured by Pflug, 1961, pl. 17, figs. 1,2). On all the specimens from Carriacou, however, they persist to the last whorl. In addition the Carriacou fossils do not reach the size of shells from the Dominican Republic

Occurrence. — Grand Bay Formation: NMB localities 10109, 10111,10703,10710, 10812.

Conus cf. aemulator Brown and Pilsbry Pl. 17, fig. 7

1935. *Conus veatchi* Olsson, Trechmann, Geol. Mag., vol. 72, No. 858, p. 545, pl. 21, fig. 10.

Only a few specimens from the Grand Bay Formation are available. The specimen figured by Trechmann is more complete than those in later collections and is, therefore, refigured here. The anal fasciole is sculptured by a few fine spiral threads.

C. veatchi Olsson (1922, p. 44, pl. 2, figs. 5,8) from the Gatun Formation of Panama has been considered as a synonym of *C. aemulator* Brown and Pilsbry (1911, p. 342, pl. 23, fig. 9) by Woodring (1928, pp. 51,59), and Rutsch (1934a, p. 104) treated *C. aemulator* as a subspecies of the Recent West Indian *C. proteus* Hwass.

Occurrence. — Grand Bay Formation: NMB localities 10109, 10710.

Conus species Pl. 17, fig. 8

?1935. *Conus* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 552, pl. 20, fig. 28.

A species of a large *Conus* with a moderately high spire and a wide apical angle occurs in the Grand Bay Formation. It is represented by a few incomplete specimens with strongly weathered surfaces. It is not possible, therefore, to describe it in detail, nor to determine its affinities.

The specimen from Tarlton's Point figured by Trechmann possibly represents an immature stage of this species.

Occurrence. — Grand Bay Formation: NMB localities 10109, 10710,10729,10730.

Conus aff. **talis** Jung Pl. 17, fig. 9

Of medium size; spire moderately high, straight in profile; protoconch not preserved. Spiral sculpture on anal fasciole only slightly indicated. Upper part of outer lip only little projecting. Sides of body whorl practically straight. Spiral sculpture on anterior part of body whorl absent or weakly indicated.

This species is represented by 22 specimens from the Grand Bay Formation. In general appearance it resembles *C. talis* Jung (1965, p. 579, pl. 78, figs. 8-11) from the middle Miocene Cantaure Formation of the Paraguaná Peninsula, Venezuela. The fossils from Carriacou differ from *C. talis* by their smaller apical angle and by the virtual absence of spiral sculpture on the anterior part of the body whorl.

Occurrence. — Grand Bay Formation: NMB localities 10109, 10703,10710,10716.

Conus cf. **imitator** Brown and Pilsbry Pl. 17, figs. 10-12

1935. *Conus (Leptoconus)* sp., Trechmann, Geol. Mag., vol. 72, No. 858, p. 545, pl. 21, figs. 8,9.

Of medium size; spire moderately high, concave in profile; protoconch not preserved; postnuclear whorls about seven, shoulder strongly angulated; early spire whorls with tubercles on shoulder; Anal fasciole sculptured by several fine spirals; outer lip somewhat projecting; anterior part of body whorl sculptured by spiral grooves, their interspaces are narrower anteriorly.

This species is represented by 27 specimens from the Grand

Bay Formation. Their state of preservation is not good enough to allow a positive identification. The early stages and sculptural details are not recognizable.

C. imitator Brown and Pilsbry (1911, p. 342, pl. 23, fig. 4) from the Gatun Formation of the Panama Canal Zone seems to be widespread in middle Miocene deposits of the Tertiary Caribbean faunal province. It has been cited from the middle Miocene of Costa Rica (Olsson, 1922, p. 45), Colombia (Anderson, 1929, p. 108), Mexico (Perrilliat, 1963, p. 27), and the Dominican Republic (Maury, 1917, p. 48 as *C. dalli* Toula; Pilsbry, 1922, p. 327).

Occurrence. — Grand Bay Formation: NMB localities 10109, 10703,10710.

Family **TEREBRIDAE**

Genus **TEREBRA** Bruguière, 1789

Subgenus **MYURELLINA** Bartsch, 1923

Terebra (Myurellina) insulae, n. sp. Pl. 18, figs. 1, 2

1935. *Terebra (Myurella) sulcifera* G. B. Sowerby I or *bipartita* G. B. Sowerby I, Trechmann, Geol. Mag., vol. 72, No. 858, p. 544, pl. 21, figs. 18,19.

Of medium size, slender; protoconch and early whorls not preserved; whorls straight to slightly convex in profile, taper regular; sculpture bipartite. Subsutural band a little wider than a third of the height of the whorl in early stages and less on late whorls. Axial sculpture consists of numerous, somewhat curved ridges. On early whorls, however, the axials are almost straight. Spiral sculpture absent. Sculpture becomes coarser with increasing age but does not smooth out on late whorls. Columella with two more or less accentuated plaits.

Holotype. — NMB No. H 15476.

Dimensions of holotype. — Height 45.0 mm; diameter 9.8 mm.

Type locality. — NMB locality 10710: Grand Bay cliff. Grand Bay Formation.

This species is represented by 30 mostly fragmentary specimens from the type locality. The holotype is a slender, not quite mature shell with 12 whorls. The other specimens do not have more than seven whorls preserved.

T. insulae is a relatively small species for the subgenus. All the species of *Myurellina* described by Olsson (1967, pp. 16-18) are considerably larger, and most of them have a larger apical angle. *T. insulae* seems to be most closely related to *T. odopoia* Gardner (1926-1950, p. 280, pl. 38, fig. 2, 1937) from the Chipola and Shoal River Formations of Florida. Both species have comparable dimensions and slenderness, but *T. odopoia* has less axials per whorl.

Occurrence. — Grand Bay Formation: NMB localities 10710, 10812 (?).

Subclass EUTHYNEURA

Order CEPHALASPIDEA

Superfamily **SPIRATELLACEA**

Family **CAVOLINIIDAE**

Genus **VAGINELLA** Daudin, 1800

Vaginella grenadinarum, n. sp. Pl. 19, figs. 1-4

Of medium to large size, stout; embryonic part of shell not preserved; lateral keels near apex moderately prominent; ventral and dorsal halves of specimens symmetrical or dorsal side slightly less inflated. Largest transverse and dorso-ventral diameters situated at about the middle of the length of the shell. Anterior transverse constriction and dorso-ventral compression prominent. Aperture elongate; dorsal margin of aperture slightly projecting over ventral margin; ventral margin of aperture somewhat reflected.

Holotype. — NMB No. H 15486.

Dimensions of holotype. — Length 7.4 mm; transverse diameter 4.0 mm; dorso-ventral diameter 3.0 mm.

Type locality. — NMB locality 10108: Belvedere. Kendace Member of Belmont Formation.

This species is based on several hundred specimens from different localities of the Kendace Member of the Belmont Formation. All the specimens are strongly worn and shell material is present in fragments only. In fact most of the specimens are preserved as internal moulds. The lateral keels near the apex are therefore visible on a few specimens only.

V. grenadinarum is a stout species of *Vaginella.* The degree of inflation and the proportions, however, are somewhat variable as indicated by the illustrations. The only species of similar proportions is *V. venezuelana* Collins (1934, p. 219, pl. 14, figs. 18-20) from the early Miocene La Rosa Formation of Venezuela. But *V.*

venezuelana reaches only half the size of the species from Carriacou. Comparison with some specimens of *V. chipolana* Dall (1890-1903, p. 431, 1892; pl. 23, figs. 4,5, 1898) from the early Miocene Chipola Formation of Florida at hand shows that *V. chipolana* is consistantly more slender and somewhat smaller than *V. grenadinarum.*

Of European species of *Vaginella* there is only *V. depressa* Daudin, 1800, which can be compared with *V. grenadinarum. V. depressa* is wide-spread in Miocene deposits of Europe and has been figured among others by Kittl (1886, p. 57, pl. 2, figs. 17-22), Checchia-Rispoli (1921, p. 15, fig. 6 of plate), and Sirna (1968, p. 424, fig. 12). *V. depressa,* the type species of the genus, was originally described from the Burdigalian of Léognan near Bordeaux, France. A comparison of *V. grenadinarum* with topotypes of *V. depressa* at hand shows that both species have about the same length, but that *V. depressa* is considerably more slender.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108,10698,10699,10753,10817.

Vaginella cf. **depressa** Daudin Pl. 19, figs. 5-7

A species of *Vaginella* collected from several localities of the Kendace Member of the Belmont Formation occurs in even greater abundance than *V. grenadinarum,* n.sp. Several hundred specimens are at hand, but the species could be picked by the thousands. Unfortunately all the specimens are preserved as internal moulds and only a few have still part of their shell. These circumstances make it virtually impossible to assign the form from Carriacou to any of the known species of *Vaginella.* Subtle differences of the shape of the apex, or the reflection of the apertural margins cannot be recognised.

As mentioned above *V. depressa* is wide-spread in Miocene deposits of Europe and has been well figured by Kittl (1886, p. 57, pl. 2, figs. 17-22), Checchia-Rispoli (1921, p. 15, fig. 6 of plate), and Sirna (1968, p. 424, fig. 12). Topotypes of *V. depressa* from the Burdigalian of Léognan near Bordeaux, France, at hand are somewhat larger than the specimens from Carriacou, but smaller topotypes are practically indistinguishable. Kittl (1886, p. 59) tabulated the dimensions of his figured specimens, all but one of which were topotypes. His figured specimen from Forchtenau, Hungary (pl. 2, fig. 22), was considerably smaller than the topotypes, but he still identified it as *V. depressa*. The specimens reported upon by Checchia-Rispoli (1921, p. 16) and Sirna (1968, p. 424) from the middle Miocene Serravalliano of San Nicola Varano, Gargano, Italy, were not longer than 5 mm, *i.e.* smaller than topotypes.

The average length of the specimens from Carriacou is about 5 mm with the notable exception of a lot containing about 50 specimens from NMB locality 10779 (west of Kendace Point). These specimens have about the same proportions as those from other localities but are consistently smaller.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108,10699,10737,10753,10779,10792, and 10778 (reworked into lower part of Carriacou Formation).

Vaginella aff. undulata (Gabb) Pl. 19, figs. 8-11

A number of mostly fragmentary and poorly preserved specimens from several localities of the Kendace Member of the Belmont Formation is available. The specimens are large for the genus, the largest ones reaching more than 12 mm in length.

The specimens are somewhat curved. One or two of the least eroded specimens show traces of a transverse undulation near the aperture on the concave side. These features are similar to those of *V. undulata* (Gabb)(1873b, p. 200) from an unspecified Miocene horizon of the Dominican Republic. The type and apparently only known specimen of *V. undulata* has been figured by Pilsbry (1922, p. 308, text-fig. 2) and Collins (1934, pl. 14, figs. 14,15). It differs from the specimens from Carriacou by its much smaller size and its weaker dorso-ventral compression.

A species with dimensions similar to those of the Carriacou specimens is *V. varanica* Sirna (1968, p. 426, fig. 16) from the Serravalliano of San Nicola Varano, Gargano, Italy. But that species has more undulations and a lateral, longitudinal sulcus.

A few large but poorly preserved specimens from the Grand Bay Formation are labelled as *Vaginella* sp. ind.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108,10699,10737,10779,10789,10794,10804, and 10754 and 10778 (the last two reworked into lower part of Carriacou Formation).

Vaginella species A Pl. 19, figs. 12, 13

1934. *Vaginella* cf. *lapugyensis* Kittl, Rutsch, Ecl. geol. Helv., vol. 27, No. 2, p. 305, pl. 8, fig. 1.

A number of long, slender, but incomplete specimens from the Kendace Member of the Belmont Formation is at hand. They are all preserved as internal moulds and lack the apex. The aperture is strongly compressed and the lateral keels only weakly developed.

Comparison with the material from the Ste. Croix Beds of Trinidad studied by Rutsch (1934b) shows that the specimens from Carriacou are conspecific with those from Trinidad. Rutsch (1934b, p. 305) pointed out that they are larger than European shells of *V. lapugyensis* Kittl (1886, p. 52, pl. 2, figs. 4,5). *V. lapugyensis* was reported from the middle (?) Miocene of Rumania, and from the Serravalliano of San Nicola Varano, Gargano, Italy (Checchia-Rispoli, 1921, p. 12, figs. 4-4b of plate; Sirna, 1968, p. 425, fig. 15). A somewhat larger specimen of *V. lapugyensis* (length 9 mm) from the Langhian of the Northern Apennines has been figured by Dieci (1962, p. 40, pl. 16, fig. 7).

Better West Indian material and topotypes of *V. lapugyensis* must be available in order to make any definite determination possible.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108,10699,10753,10779,10817, and 10778 (reworked into lower part of Carriacou Formation).

Genus **STYLIOLA** Gray, 1847

Styliola sulcifera Gabb Pl. 19, figs. 14, 15

1873. *Styliola sulcifera* Gabb, Amer. Philos. Soc., Trans., new ser., vol. 15, p. 200.
1922. *Styliola sulcifera* Gabb, Pilsbry, Acad. Nat. Sci. Philadelphia, Proc., vol. 73, p. 309, text-fig. 3.
1934. *Styliola sulcifera* Gabb, Collins, Johns Hopkins Univ. Stud. Geol., No. 11, p. 202, pl. 9, figs. 9,10. Not figs. 11,12.

Shell small, slender; surface smooth. Shell with a longitudinal somewhat spiral sulcus running from the aperture slightly to the left. On the inner side of this sulcus there is a corresponding ridge leaving an impression on internal moulds. At the posterior end of the sulcus the shell is somewhat twisted.

Type. — Acad. Nat. Sci. Philadelphia, No. 2893.

Type locality. — Dominican Republic (Miocene).

This species is represented by about a dozen incomplete specimens from the Kendace Member of the Belmont Formation which are preserved as internal moulds.

The type of *S. sulcifera* has been collected from an unspecified Miocene horizon of the Dominican Republic, and apparently it is the only specimen reported upon in literature. Collins (1934, p. 203) identified and figured incomplete specimens of *Styliola* from the Bowden shell bed of Jamaica as *S. sulcifera*. The collections of the Naturhistorisches Museum Basel contain an almost complete specimen of *Styliola* from the Bowden shell bed. The writer identified this shell as *S. subula* (Quoy and Gaimard)(1827, p. 233; Atlas, pl. 8D, figs. 1-3) after comparing it with numerous dead Recent shells of *S. subula* at hand which were collected by the First Harvard-Habana Expedition 1938 at Atlantis Station 2999 (off Cuba: Lat. 23° 10′ N, Long. 81° 29′ W. Depth 230 fathoms).

Although all the known specimens of *S. sulcifera* are in an unsatisfactory state of perservation, they seem to differ from *S. subula* by their somewhat stouter shape and by reaching a slightly larger apertural diameter. *S. lamberti* Checchia-Rispoli (1921, p. 10, figs. 3, 3a, of plate) from the Serravalliano of San Nicola Varano, Gargano, Italy, (see also Sirna, 1968, p. 420, fig. 6) might represent the same species as *S. sulcifera* but comparison with topotypes is needed. Avnimelech (1945, p. 640, fig. 2) recorded *Styliola* aff. *S. subula* from the middle Miocene of northern Syria, but his illustrations do not allow recognition with the genus *Styliola*.

According to Menzies (1958) and Chen and Bé (1964) *S. subula* shows diurnal fluctuations ranging from surface waters to a depth of 400 meters and more. It is probable that the sediments of Carriacou containing *Styliola* have been deposited at a depth of several hundred meters.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10753,10779.

Genus **CLIO** Linné, 1767

Clio kendacensis, n. sp. Pl. 20, figs. 1-4

Of medium size; apical angle 35° to 40°; apex somewhat recurved; lateral margins keeled and compressed; dorsal side strongly and regularly inflated except near the lateral margins. Ventral side moderately inflated near the apex except near the lateral margins.

At some distance from the apex the ventral inflation is divided by a median, longitudinal depression which becomes more prominent towards the aperture. Surface smooth, without transverse ribbing.

Holotype. — NMB No. H 15497.

Dimensions of holotype. — Length 7.4 mm; maximum transverse diameter 4.8 mm; maximum dorso-ventral diameter 2.7 mm.

Type locality. — NMB locality 10779: west of Kendace Point. Kendace Member of Belmont Formation.

This species is based on more than a hundred specimens from several localities of the Kendace Member of the Belmont Formation. Most of them, however, are only small fragments and only few have small parts of their shell preserved.

C. kendacensis is characterised by the median, longitudinal depression on the ventral side of the shell. Only two other forms of *Clio* without transverse ribbing have so far been reported from the Caribbean Tertiary. One is *C. bowdenensis* (Collins)(1934, p. 201, pl. 12, figs. 3-5) from the Bowden Formation of Jamaica, which is different from *C. kendacensis*, and the other one is *Clio* sp. ind. recorded by Rutsch (1934b, p. 309) from the Ste. Croix Beds of Trinidad. The material of *Clio* sp. ind. studied by Rutsch contains only specimens attached to matrix. Unfortunately all these specimens are attached by their ventral side, which is, therefore, unknown. Their dorsal side, however, is similar to that of *C. kendacensis.*

The species of *Clio* described from the Serravalliano of San Nicola Varano, Gargano, Italy, by Checchia-Rispoli (1921) and Sirna (1968) all lack the median, longitudinal depression on the ventral side.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108, 10699, 10737, 10753, 10779, 10789, 10801, 10804, and 10778 (reworked into lower part of Carriacou Formation).

Clio cf. **pulcherrima** (Mayer) Pl. 20, figs. 8-10

A single specimen reworked into the lower part of the Carriacou Formation is available. It is a somewhat damaged internal mould. Apical angle about 40°. Lateral keels well developed. On one side the lateral margins are set off from the central, somewhat elevated surface, which is sculptured by five subequal, longitudinal ridges diverging from the apex. The other side is also sculptured by five, but more closely spaced ridges. The central one of these ridges is slightly wider than the adjacent ones, and the outer ones have again about the same strength as the central ridge. Toward the lateral margins there is another low, weakly developed, longitudinal ridge on each side, thus making up a total of seven ridges. In addition both sides are sculptured by transverse riblets which are best developed near the lateral margins.

Little is known about the variability of *C. pulcherrima* (Mayer) (1868, p. 105, pl. 2, fig. 3) which was originally described from the pteropod marls (Langhian) of Serravalle-di-Scrivia, northern Italy. The species has been recorded from several localities of Burdigalian and Helvetian age in Italy. Comparison with the syntypes of *C. pulcherrima* shows that the fossil from Carriacou has somewhat wider longitudinal ridges and apparently a larger apical angle. These differences, however, might fall within the variability of *C. pulcherrima.*

The specimens recorded by Rutsch (1934b, p. 307, pl. 8, figs. 2,3) from the Ste. Croix Beds of Trinidad are more like the syntypes of *C. pulcherrima* than is the fossil from Carriacou. They differ only by their wider interspaces of the longitudinal ridges.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10789 (?) and 10778 (the latter reworked into the lower part of the Carriacou Formation.

Clio cf. **pedemontana** (Mayer) Pl. 20, figs. 5-7

A single, incomplete internal mould is available. It is strongly inflated, without longitudinal ridges on either side. Lateral keels pronounced. Sculpture consists of numerous transverse, curved riblets. The concave side of the riblets looks toward the apex.

The specimen from Carriacou suggests relationship with *C. pedemontana* (Mayer)(1868, p. 104, pl. 2, fig. 2) from the Langhian of northern Italy. The syntypes of *C. pedemontana,* which are at hand, are all attached to matrix, and they seem to be less inflated than the fossil from Carriacou. The curvature of their transverse riblets is somewhat variable and comparable to that of the Carriacou specimen. Some of the syntypes reach more than 20 mm in length, whereas the specimen from Carriacou is only 6.2 mm long.

C. lavayssei Rutsch (1934b, p. 308, pl. 8, figs. 4,5) from the Ste. Croix Beds of Trinidad has a more pronounced transverse ribbing and is well characterised by a longitudinal, central ridge on the dorsal side which is bordered by two longitudinal sulci. These latter features are lacking in *C.* cf. *pedemontana* from Carriacou.

Occurrence. — Kendace Member of Belmont Formation: NMB locality 10778 (reworked into lower part of Carriacou Formation).

Genus **CAVOLINIA** Abildgaard, 1791

Cavolinia pycna, n. sp. Pl. 21, figs. 1-6

Of small size, globular. Ventral side strongly inflated, sculptured only by a few faint, transverse threads. Posterior part of ventral side terminates in a point which is strongly curved toward the dorsal side and touches it. Antero-lateral margins of ventral side project over dorsal side. Dorsal side even more inflated than ventral side, sculptured by a median ridge which becomes wider toward the apertural margin. This median ridge is bordered on both sides by straight sulci which in turn are followed laterally by a less prominent, longitudinal ridge. The anterior part of the dorsal side is bent over the anterior edge of the ventral side thus becoming ventral in position. It continues on the ventral side for some distance, the median ridge extending a little further than the remainder of the margin. Aperture narrow.

Holotype. — NMB No. H 16482.

Dimensions of holotype. — Length 3.0 mm; width 2.6 mm; dorso-ventral diameter 2.0 mm.

Type locality. — NMB locality 10108: Belvedere. Kendace Member of Belmont Formation.

C. pycna is based on 30 specimens from different localities of the Kendace Member of the Belmont Formation. Many of them are not complete, and the holotype has the anterior part of the dorsal side broken off. The faint transverse threads of the ventral side are recognizable on a few specimens only. On the others the ventral side appears to be smooth.

C. pycna is not closely related to any of the Recent or Tertiary Caribbean species of *Cavolinia.* It is, however, similar to *C. zamboninii* Checchia-Rispoli (1921, p. 26, figs. 12-12b of plate) from the Serravalliano of San Nicola Varano, Gargano, Italy (see also Sirna, 1968, p. 428, fig. 20). *C. zamboninii* has exactly the same type of sculpture but is larger and has different proportions. It is wider than long, whereas *C. pycna* is longer than wide. *C. cookei*

Simonelli (1895, p. 19, text-figs. a-c) from the early (?) Miocene of Malta has dimensions and proportions similar to those of *C. pycna* but its dorsal side is sculptured by eight ridges. *C. pycna* and the species mentioned above should probably be assigned to the subgenus *Gamopleura* Bellardi (1872, p. 28), but the lack of comparative material prevents the writer of doing so.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108,10699,10737,10753,10779,10817.

Cavolinia cf. **vendryesiana** (Guppy)

Only two small, incomplete internal moulds from the Kendace Member of the Belmont Formation of Bretache Point are available. They are too poorly preserved to be identified specifically, but they apparently belong to a species related to *C. vendryesiana* (Guppy) which has been described from the Bowden Formation of Jamaica (Woodring, 1928, p. 115, pl. 1, figs. 12,13; Collins, 1934, p. 190, pl. 11, figs. 16-18).

Occurrence — Kendace Member of Belmont Formation: NMB locality 10753.

Cavolinia regulae, n. sp. Pl. 20, figs. 12-14

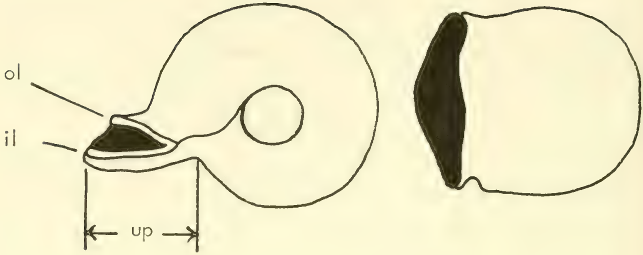
Of medium to large size; apex inconspicuous. Dorsal side only slightly inflated, sculptured by five or six low, "concentric" undulations which are somewhat angulated along an obscure ridge in the plane of symmetry. Posterior margin practically straight. Ventral side three-lobed, strongly inflated. Growth lines recognizable. The three lobes are separated by two deep, wide furrows which converge toward the posterior margin but do not reach it. Ventral apertural margin somewhat recurved. Dorsal apertural margin projecting over ventral one. The aperture is high due to the strong inflation of the central lobe of the ventral side.

Holotype. — NMB No. H 16484.

Dimensions of holotype. — Length 8.8 mm; width 8.4 mm; dorso-ventral diameter 5.0 mm.

Type locality. — NMB locality 10737: northwest of Point St. Hilaire. Kendace Member of Belmont Formation.

This species is based on 17 mostly incomplete specimens from various localities within the Kendace Member of the Belmont Formation. Unfortunately none of them has the dorsal side completely



Text-figure 2. Sketch of *Sphaerocina* showing position of aperture (black). Left figure: apical view. Right figure: apertural view. ol: outer lip. il: inner lip. up: uncoiled part.

preserved. Some of the specimens are immature and, therefore, their shell is not inflated yet.

When describing *C. audeninoi trinitatis* from the Ste. Croix Beds of Trinidad, Rutsch (1934b) compared it with a number of species from the Burdigalian and Helvetian of Italy, which he termed the "*audeninoi*-group". He included in this group *C. audeninoi* Vinassa de Regny (1898, p. 84), *C. audeninoi bononiensis* Vinassa de Regny (1898, p. 84, text-figs. on p. 85), and *C. cerullii* Checchia-Rispoli (1921, p. 24, figs. 11-11b of plate; see also Sirna, 1968, p. 428, fig. 19) considering all of them as subspecies of *C. audeninoi*. The close similarity of these forms led Rutsch to the conclusion that the subspecies from Trinidad must be of the same or a similar age as the Italian subspecies. *C. regulae* is also related to this group but can at once be distinguished by the sculpture on its dorsal side. *C. regulae* has "concentric" sculpture on its dorsal side, whereas all the forms mentioned above have radiating ridges.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10737,10753,10779,10804, and 10778 (reworked into lower part of Carriacou Formation).

Family **SPIRATELLIDAE** ?

Genus **SPHAEROCINA,** n. gen.

Type species:*Limacina formae* Audenino. Miocene, northern Italy.

Shell small (diameter about 5 mm), sinistral, almost planispirally coiled; spire somewhat sunken, umbilicus deep; surface not sculptured except for growth lines. Last part of last whorl uncoiled and recurved. Inner wall of uncoiled part with a median swelling. Aperture narrow, slightly wider in the middle. Outer lip strongly recurved.

Sphaerocina is characterized by the recurved last portion of the last whorl and the unusual position of the aperture. Its familial assignment to the Spiratellidae is questionable. It is tentatively retained there mainly because in early stages it has the same type of coiling as the Recent, cosmopolitan *Spiratella inflata* (d'Orbigny). Good figures of *S. inflata* have been given by Souleyet (1852, p. 216, pl. 13, figs. 1-10) and McGowan (1968, pl. 13, figs. a-c). *S. inflata* has also been recorded from the middle Miocene of the Dominican Republic by Pilsbry (1922, p. 308, text figure 1) and from the middle Miocene of Mexico by Collins (1934, p. 179, pl. 7, figs. 3-8). The apertural features of *S. inflata*, however, are entirely different from those of *S. formae*. So far *S. formae* seems to be the only species of the genus.

Sphaerocina formae (Audenino) Pl. 21, figs.7-14

1897. *Limacina formae* Audenino, Soc. Malac. Ital., Boll, vol. 20, p. 98, pl. 5, figs. 1a-d.
1904. *Limacina formae* Audenino, Sacco, I molluschi dei terreni terziarii del Piemonte e della Liguria, parte 30, p. 12, pl. 4, figs. 1a-d.
1905. *Limacina formae* Audenino, Bellini, Ann. Soc. Roy. Zool. Malac. Belgique, vol. 40, p. 29, text-figs. 9,10.

Of small size, globular; shell thin, smooth except for minute growth lines; coiling almost planispiral; spire sunken; umbilicus deep; last portion of last whorl uncoiled, *i.e.* bent outwards; outer lip strongly everted. Inner wall of uncoiled part with a median swelling, which hardly reaches the edge of the inner lip. Aperture narrow, slightly wider in the middle.

Type material. — The type material of *Limacina formae* is deposited in the Museum of the Dept. of Geology, Palazzo Carignano, Torino, Italy. It consists of 48 fragmentary syntypes, none of which is preserved well enough to serve as lectotype.

Type locality. — Monte dei Cappuccini near Torino, Italy. Marls of the Elveziano.

The original figures of S. *formae* represent composite drawings. The illustrations published subsequently by Sacco and by Bellini are merely copies of the original figures. None of the syntypes is complete, although it cannot be excluded that some of the specimens were more complete, when Audenino studied them. The median swelling mentioned in the description above is much exaggerated in the original figures, and the depths of the depressions bordering this swelling as well. Most of the syntypes are preserved as internal moulds, and only small pieces of original shell material are available. These pieces are thin and show some faint growth lines. One of the syntypes shows a small part of the aperture in perfect preservation: the apertural margin is not thickened.

In Carriacou, S. *formae* occurs in the Kendace Member of the Belmont Formation and is represented by 18 mostly incomplete specimens from different localities. Most of them have been found at Belvedere. In all the specimens the areas of the spire and the umbilicus are covered by matrix. The specimens from Italy and Carriacou have about the same dimensions and proportions, and it is not possible to differentiate them specifically with the material available.

An "equatorial" section of a specimen from Carriacou shows that most of the interior of the shell is recrystallized, and that the shell walls themselves are poorly preserved. One specimen was broken up which revealed that the median swelling mentioned in the description above is present even in early stages. Seen from the front this swelling forms a low spiral on successive whorls.

I am obliged to Prof. R. Malaroda and Dr. G. Pavia, Torino, for the loan of the type material of *Limacina formae* and for literature information, and to Dr. S. van der Spoel, Amsterdam, for literature information.

Occurrence. — Kendace Member of Belmont Formation: NMB localities 10108,10698,10699,10779,10817.

Distribution. — So far S. *formae* has been recorded only from the type locality. The record from the Langhian of the Langhe, northern Italy, given by Bellini needs confirmation.

Order STYLOMMATOPHORA

Superfamily **HELICACEA**

Family **CAMAENIDAE**

Genus **PLEURODONTE** Fischer von Waldheim, 1807

Subgenus **PLEURODONTE** *s.s.*

Pleurodonte (Pleurodonte) lehneri (Trechmann) Pl. 18, figs. 3-15

1935. *Helix (Caprinus) lehneri* Trechmann, Geol. Mag., vol. 72, No. 858, p. 550, pl. 20, fig. 26 (two figures).

?1935. *Helix (Caprinus) carriacouensis* Trechmann, Geol. Mag., vol. 72, No. 858, p. 551, pl. 20, fig. 25.

Of small to medium size, stout and solid; spire moderately elevated, convex in profile; periphery of last whorl rounded; protoconch not separable from postnuclear whorls; whorls numbering five totally; sutures moderately incised. Final part of last whorl bent abruptly toward the base. The plane of the aperture is situated almost perpendicularly to the main shell axis. Apertural lips strongly thickened. Aperture with a strong, prominent tooth in the middle of the upper lip, and two sometimes poorly developed denticles on the basal lip. The only sculpture consists of faint growth lines, which are prosocline on spire whorls and radial on the base; umbilicus closed.

Lectotype (herewith selected). — British Museum (Natural History), Dept. of Palaeontology, No. GG 4501 (specimen figured by Trechmann, 1935, pl. 20, fig. 26, upper figure; refigured here Pl. 18, figs. 3,4).

Dimensions of lectotype. — Height 12.6 mm; width 17.7 mm.

Type locality. — Point St. Hilaire (=St. Helene, or Limlair Point). Grand Bay Formation.

Holotype of P. carriacouensis. — British Museum (Natural History), Dept. of Palaeontology, No. GG 4506 (specimen figured by Trechmann, 1935, pl. 20, fig. 25; refigured here Pl. 18, figs. 6-8).

Dimensions of holotype of P. carriacouensis. — Height 15.3 mm, width 24.6 mm.

Type locality of P. carriacouensis. — Tarlton's Point. Grand Bay Formation.

Trechmann described *Helix lehneri* and *H. carriacouensis* suggesting that they belong to *Caprinus* Montfort, 1810, or *Dentellaria* Schumacher, 1817. *Caprinus* is a synonym of *Pleurodonte,* and *Den-*

tellaria can be considered as a subgenus of *Pleurodonte*. Species of *Dentellaria* are larger on an average and are characterized by their finely granulated surface. The shell surface of *Pleurodonte s.s.* is smooth except for growth lines. Recent species of *Pleurodonte s.s.* live on the Lesser Antilles, whereas species of *Dentellaria* seem to be restricted to Jamaica.

P. lehneri is represented by more than 50 specimens from the Grand Bay Formation of Tarlton's Point and Point St. Hilaire. Many of them, however, are only fragments. The height of the spire and its convexity are somewhat variable.

P. carriacouensis was based on a single specimen. It is the largest fossil *Pleurodonte* so far found in Carriacou and its slightly different proportions may be due to its larger size. The largest specimen at hand is only a little more than 20 mm wide. Ten specimens from Tarlton's Point, the type locality of *P. carriacouensis*, cannot be distinguished from specimens from Point St. Hilaire, the type locality of *P. lehneri*. Therefore, *P. carriacouensis* is tentatively taken into the synonymy of *P. lehneri*. New and better material, however, might show that *P. carriacouensis* is a valid species.

Among the comparative Recent material at hand *P. lehneri* resembles *P. nucleola* (Rang) from Martinique. Both species have similar dimensions, but *P. nucleola* differs by its larger aperture which is considerably less turned downward than in *P. lehneri*. In addition *P. nucleola* shows an indication of an angulation on the periphery of its last whorl which is not the case in *P. lehneri*.

The fact of the occurrence of terrestrial gastropods in the marine sediments of the Grand Bay Formation points to the proximity of land during Grand Bay times from which they have been washed into the marine basin. *P. lehneri* has been found in two areas: at Point St. Hilaire in the north and at Tarlton's Point in the south. Because *P. lehneri* is more abundant in the northern area than in the southern area (at the proportion of 4 to 1), it seems likely that this land was situated to the north or northwest of Point St. Hilaire.

Occurrence. — Grand Bay Formation: NMB localities 10703, 10704,10708,10709,10729,10730.

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PLATES

EXPLANATION OF PLATE 1

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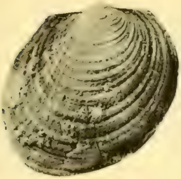
1, 2.	**Limopsis grenadinarum,** n. sp.	162
	1. Holotype. Length 6.6 mm, height 4.8 mm. Locality 10699; No. G 14067. 2. Paratype. Length 7.4 mm, height 6.5 mm. Locality 10699. No. G 14068.	
3.	**Lyropecten (Nodipecten)** cf. **colinensis** (F. and H. Hodson)	165
	Length 78 mm, height 65 mm. Bretache Point. British Museum (Natural History), Palaeont. Dept, No. LL 24528.	
4, 5.	**Spondylus** species A	164
	4. Length 91 mm, height 99 mm. Locality 10704. No. G 14075. 5. Hinge of same specimen as figure 4.	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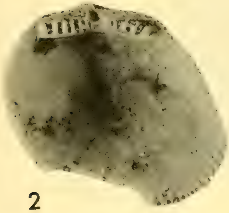
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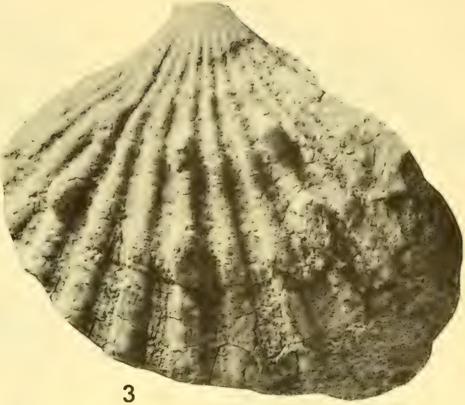
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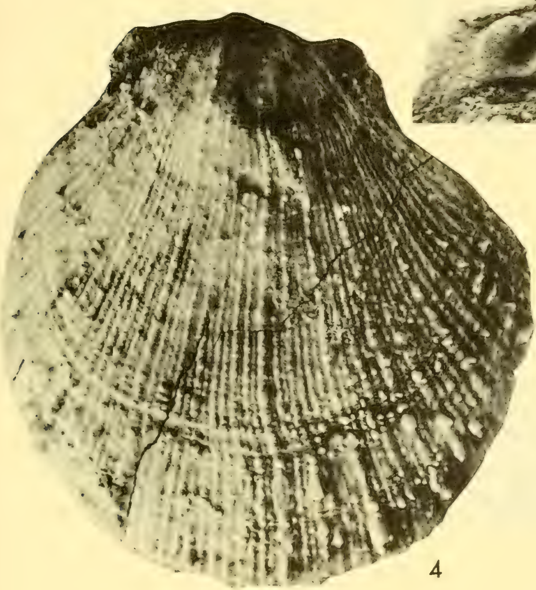
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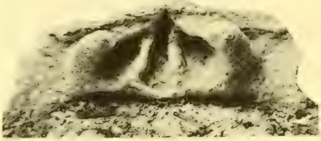
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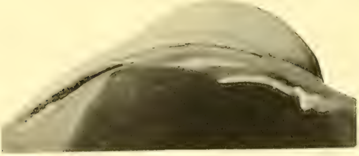
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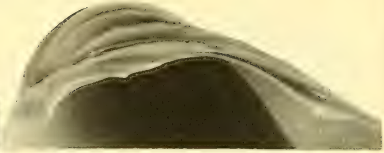
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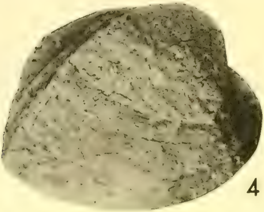
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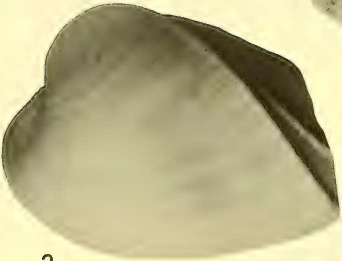
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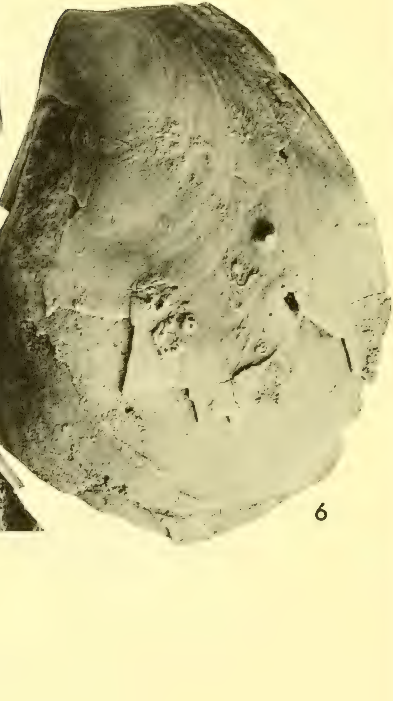
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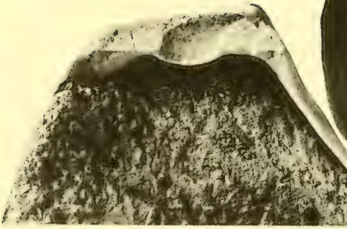
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EXPLANATION OF PLATE 2

Figure		Page
1-3.	**Meiocardia agassizi** (Dall)	171
	1. Hinge of left valve (same specimen as figure 2), enlarged 3 ×. 2. Length 28.8 mm, height 21.3 mm. Recent. Locality: east of Mississippi Delta, about 84 nautical miles SSE of Mobile. Coordinates: Lat. 29° 19′ 30″ North; Long. 87° 46′ 22″ West. Depth 55 fathoms. No. G 14069. 3. Hinge of right valve. Enlarged 3 ×. Recent. Same locality as figures 1 and 2. No. G 14070.	
4.	**Meiocardia** cf. **agassizi** (Dall)	171
	Length 22.4 mm, height 17.9 mm. Locality 10710. No. G 14071.	
5, 6.	**Acesta (Acesta) goajira** Olsson and Richards ?	167
	5. Hinge of same specimen as figure 6. Natural size. 6. Length 73 mm, height 92 mm, convexity 26 mm. Locality 10792. No. G 14072.	

EXPLANATION OF PLATE 3

Figure		Page
1-2.	**Ostrea** cf. **paraguanensis** F. Hodson	169
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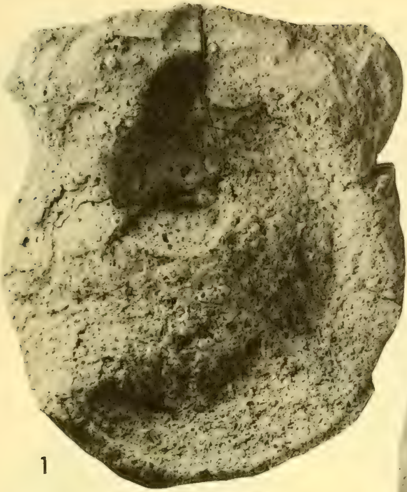
3, 4.	**Palliolum (Delectopecten) antillarum,** n. sp.	166
	3. Paratype. Length 10.2 mm, height 11.1 mm. Locality 10812. No. G 14077. 4. Holotype. Length 18.4 mm, height 21.2 mm. Locality 10710. No. G 14076.	
5.	**Chlamys** species	165
	Length 33.8 mm, height 38.7 mm. Locality 10710. No. G 14078.	



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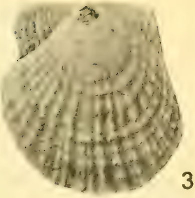

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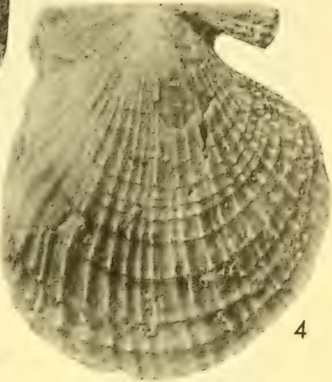

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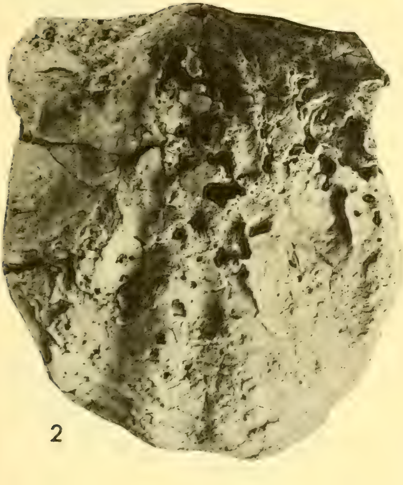

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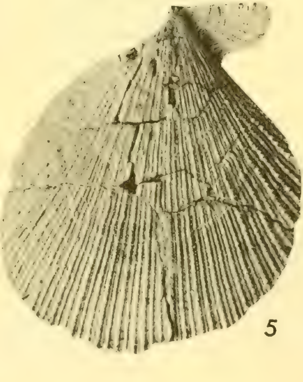

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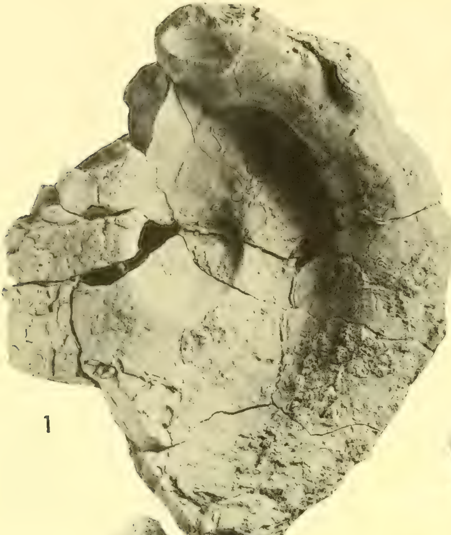

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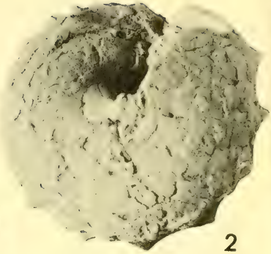

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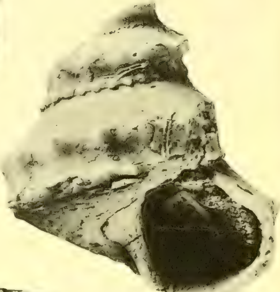

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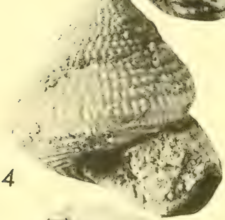

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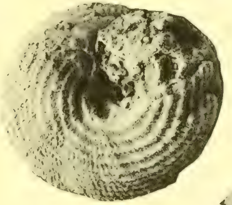

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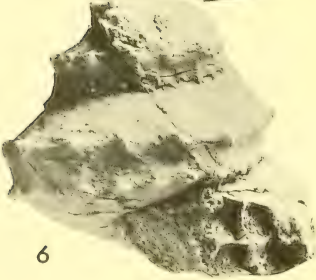

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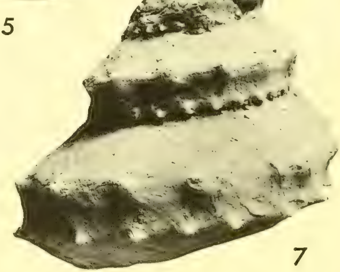

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Explanation of Plate 4

Figure — Page

1. **Ostrea** (subgenus ?) aff. **antiguensis** Brown 169

Length 148 mm, height 180 mm. Locality 10744. No. G 14074.

2, 3, 6, 7. **Turcicula** ? **kendacensis,** n. sp. 172

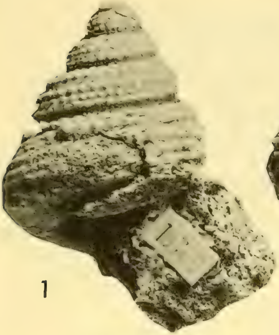
2, 3. Paratype. Height 33.6 mm, diameter 31.4 mm. Locality 10789. No. H 15425. 6, 7. Holotype. Height 34.0 mm, diameter 36.7 mm. Locality 10789. No. H 15424.

4, 5. **Calliostoma** ? aff. **tarltonense,** n. sp. 175

Height 27.3 mm, diameter 24.2 mm. Locality 10699. No. H 15428.

EXPLANATION OF PLATE 5

Figure		Page
1-4.	**Calliostoma ? tarltonense,** n. sp.	174
	1, 2. Holotype. Height 31.6 mm, diameter 28.2 mm. Locality 10709. No. H 15426. 3, 4. Paratype. Height 29.0 mm, diameter 26.3 mm. Locality 10709. No. H 15427.	
5-8.	**Calliostoma mirificum,** n. sp.	173
	5, 6. Holotype. Height 26.7 mm, diameter 46.2 mm. Locality 10708. No. H 15429. 7, 8. Paratype. Height 24.3 mm, diameter 36.3 mm. Locality 10708. No. H 15430.	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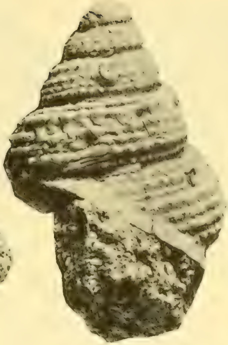
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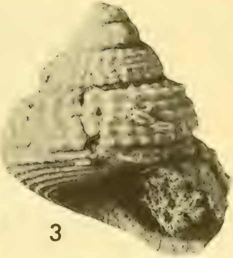
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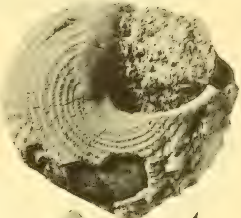
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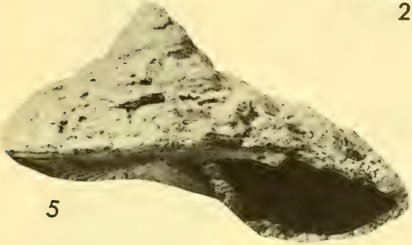
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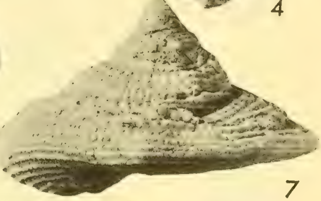
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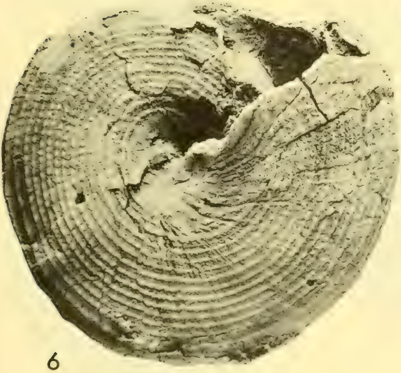
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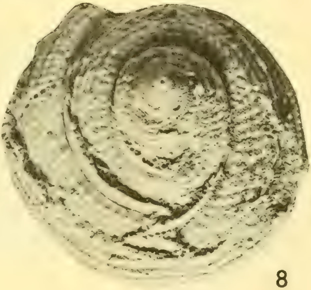
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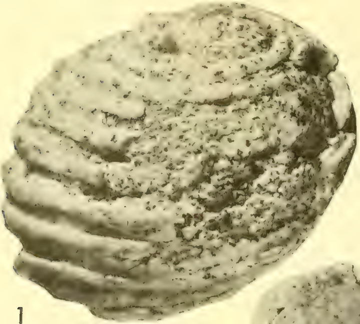
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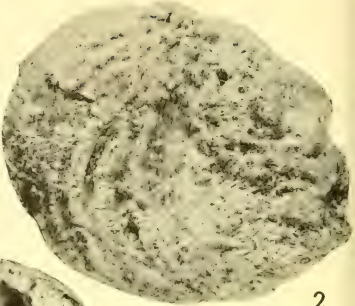
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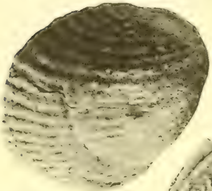
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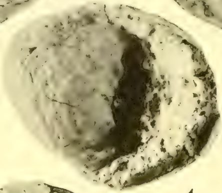
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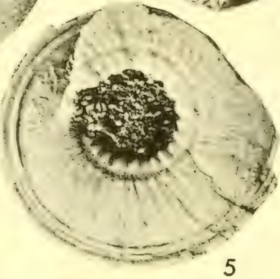
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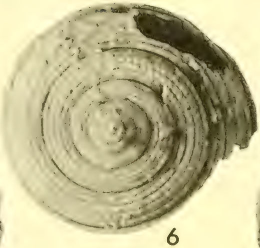
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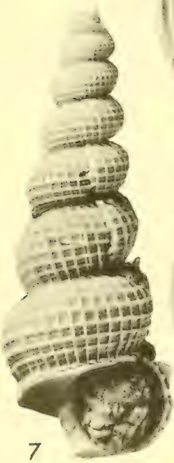
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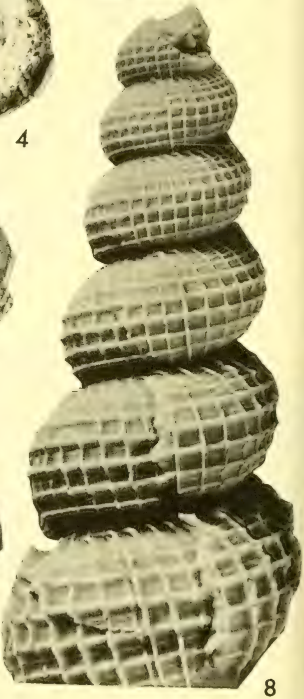
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EXPLANATION OF PLATE 6

Figure		Page
1, 2.	**Nerita (Nerita ?) exuvioides** Trechmann	175
	Holotype. Height 22.5 mm, width 27.2 mm. Point St. Hilaire. British Museum (Natural History), Dept. Palaeont., No. GG 4503. Photograph courtesy British Museum (Natural History).	
3, 4.	**Nerita** (subgenus ?) species A.	176
	Height 16.4 mm, diameter 18.0 mm. Locality 10743. No. H 15436.	
5, 6.	**Architectonica (Architectonica) nobilis karsteni** Rutsch	177
	5. Height 13.4 mm, diameter 24.7 mm. Locality 10710. No. H 15432. 6. Height 11.1 mm, diameter 21.6 mm. Locality 10710. No. H 15431.	
7, 8.	**Scalina kendacensis,** n. sp.	177
	7. Holotype. Height 38.5 mm, diameter 14.2 mm. Locality 10793. No. H 15433. 8. Enlargement of part of holotype.	

EXPLANATION OF PLATE 7

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1-4.	**Sthenorytis grenadinarum,** n. sp.	179
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5.	**Turritella (Bactrospira) altilira altilira** Conrad ?	176
	Height 34.3 mm; diameter 13.2 mm. Locality 10109. No. H 15437.	
6, 7.	**Trivia** cf. **suffusa** (Gray)	180
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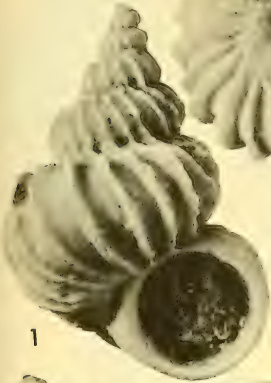
8-11.	**Trivia islahispaniolae** Maury	180
	8, 9. Height 7.0 mm, width 5.6 mm. Locality 10710. No. H 15440. 10, 11. Height 8.0 mm, width 6.6 mm. Locality 10710. No. H 15439.	



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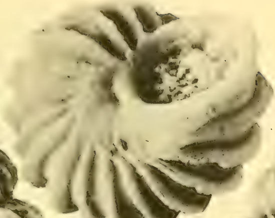

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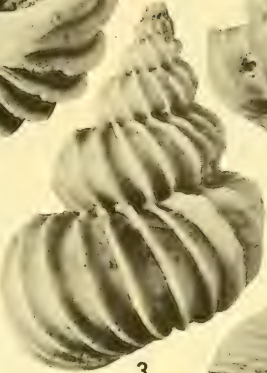

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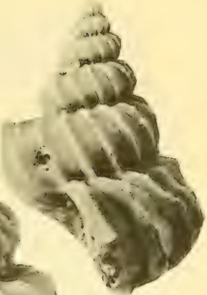

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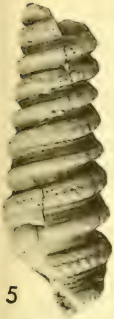

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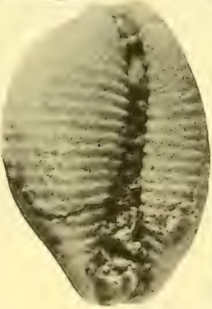

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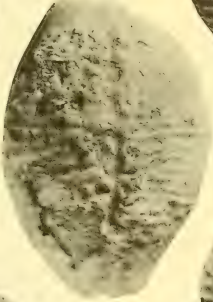

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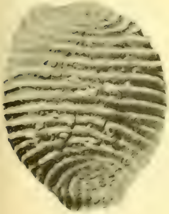

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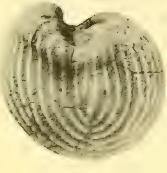

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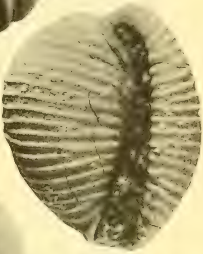

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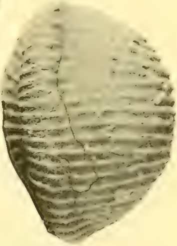

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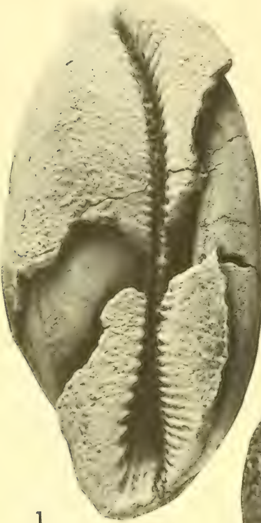

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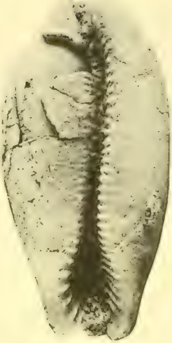

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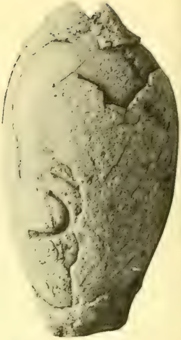

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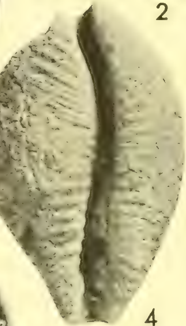

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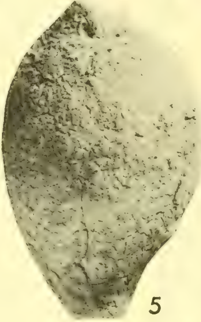

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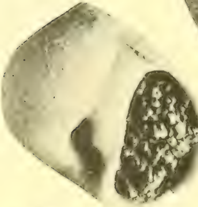

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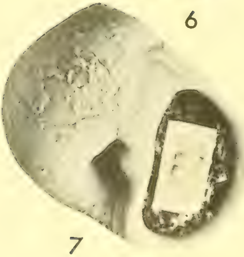

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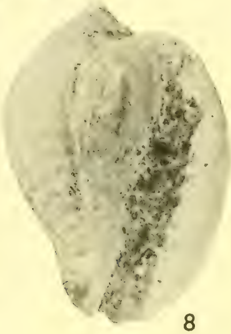

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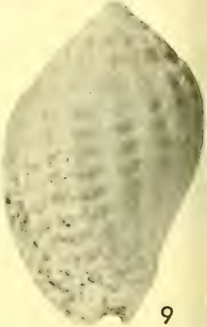

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EXPLANATION OF PLATE 8

Figure Page

1-3. **Macrocypraea** aff. **zebra** (Linné) 181

1. Height 86.0 mm, width 43.6 mm. Locality 10703. No. H 15438. 2, 3. Height 57.1 mm, width 29.1 mm. Locality 10109. No. H 11306 (specimen figured by Schilder, 1939, fig. 32).

4, 5. **Pustularia** ? **caribaea** Schilder 182

Holotype. Height 13.5 mm, width 8.7 mm. Locality 10108. No. H 11260.

6, 7. **Polinices prolacteus** Anderson ? 184

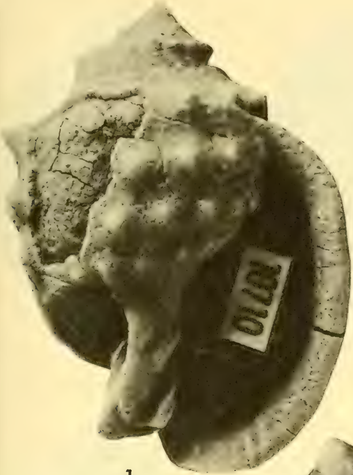
6. Height 17.2 mm, width 16.8 mm. Locality 10710. No. H 15442. 7. Height 21.3 mm, width 20.7 mm. Locality 10710. No. H 15441.

8, 9. **Morum (Cancellomorum) coxi** (Trechmann) 188

Holotype. Height 26.0 mm, width 18.4 mm. Grand Bay cliff. British Museum (Natural History), Dept. Palaeont., No. GG 4404. Photograph courtesy British Museum (Natural History).

EXPLANATION OF PLATE 9

Figure		Page
1-5.	**Bathygalea (Miogalea) famulans,** n. sp.	186
	1-3. Holotype. Height 39.2 mm, width 29.4 mm. Locality 10710. No. H 15444. 4, 5. Paratype. Height 29.2 mm, width 22.5 mm. Locality 10710. No. H 15445.	
6.	**Sinum gabbi** (Brown and Pilsbry)	185
	Height 15.2 mm, width 16.3 mm. Locality 10710. No. H 15443.	



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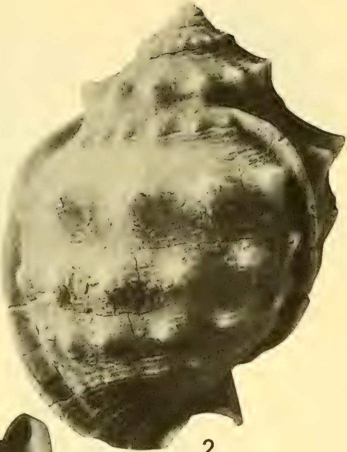

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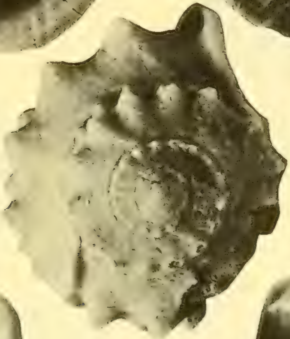

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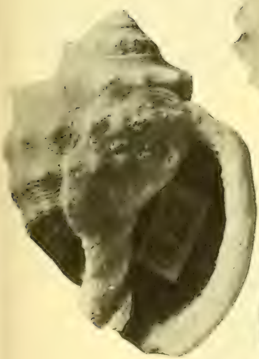

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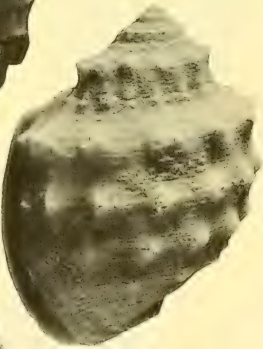

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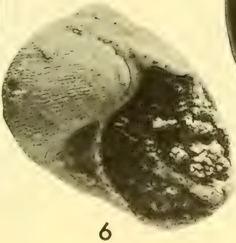

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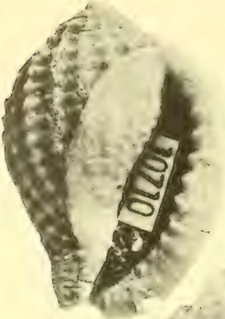

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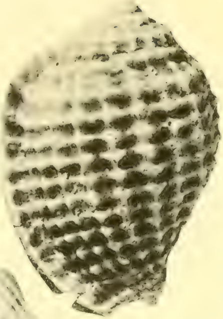

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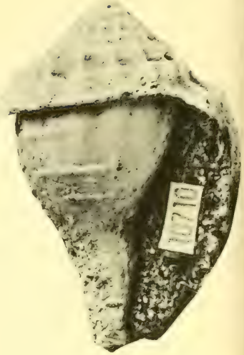

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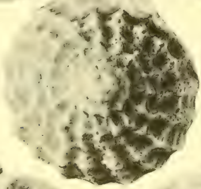

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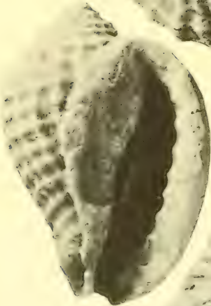

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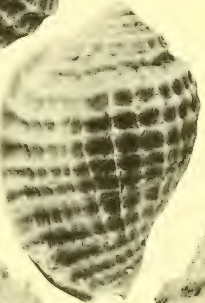

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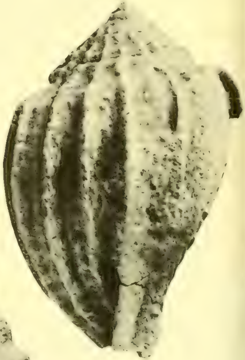

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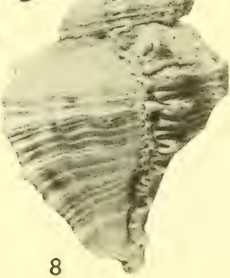

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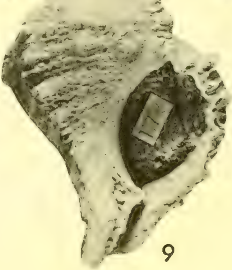

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EXPLANATION OF PLATE 10

Figure		Page
1-5.	**Morum (Cancellomorum) coxi** (Trechmann)	188
	1-3. Height 27.3 mm, width 19.7 mm. Locality 10710. No. H 15447. 4, 5. Height 26.0 mm, width 18.2 mm. Locality 10710. No. H 15446.	
6, 7.	**Cypraecassis** species	187
	Height 38.2 mm, width 27.4 mm. Locality 10710. No. H 16493.	
8, 9.	**Chicoreus (Chicoreus) cornurectus** (Guppy)	192
	Height 60.2 mm, width 39.2 mm. Locality 10703. No. H 15453.	

EXPLANATION OF PLATE 11

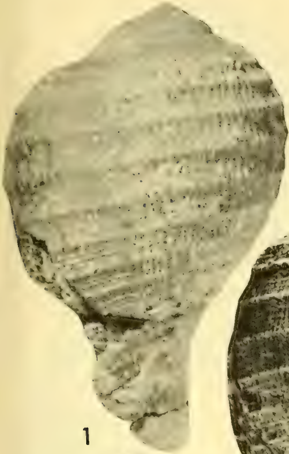
Figure Page

1-4. **Ficus carriacouensis** Trechmann 191

1. Holotype. Height 36.7 mm, width 24.1 mm. Grand Bay cliff. British Museum (Natural History), Dept. Palaeont., No. GG 4401. Photograph courtesy British Museum (Natural History). 2. Height 36.4 mm, width 26.0 mm. Locality 10710. No. H 15452. 3, 4. Height 31.7 mm, width 21.4 mm. Locality 10710. No. H 15451.

5-7. **Bursa (Colubrellina)** species A 189

5, 7. Height 33.2 mm, width 20.3 mm. Locality 10710. No. H 15448. 6. Height 29.4 mm, width 20.3 mm. Locality 10710. No. H 15449.



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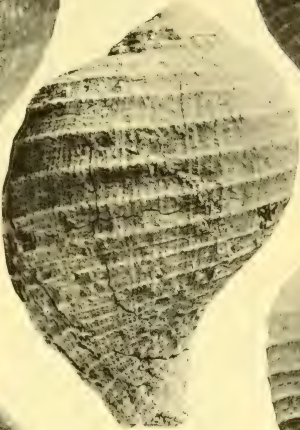

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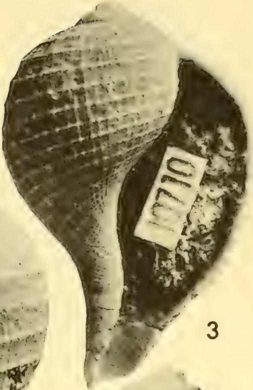

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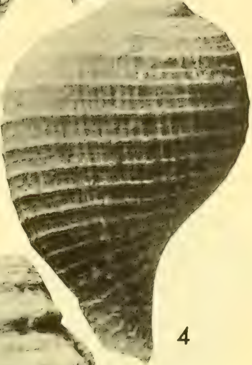

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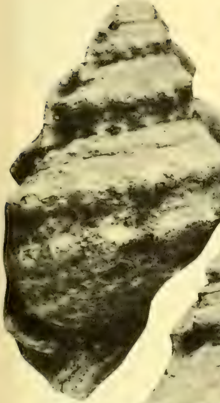

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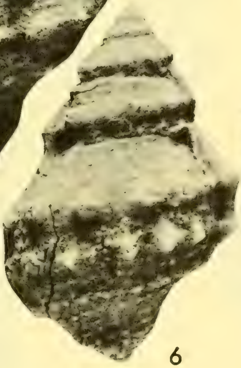

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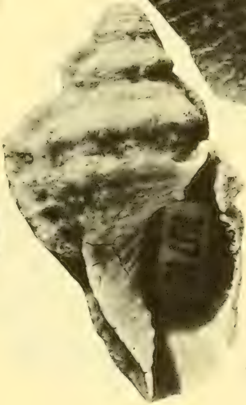

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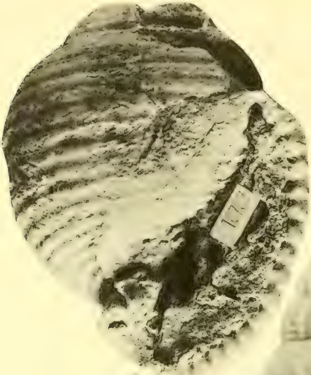
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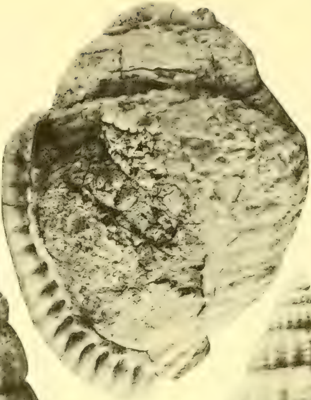
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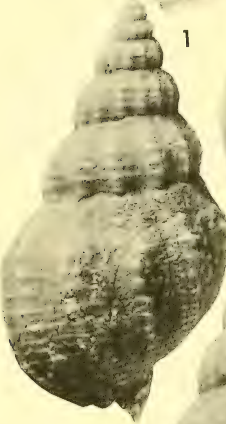
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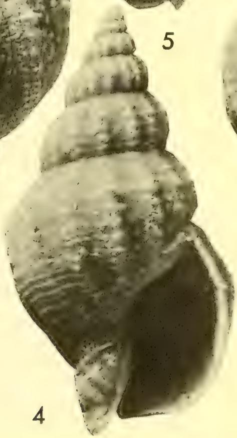
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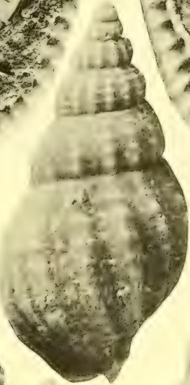
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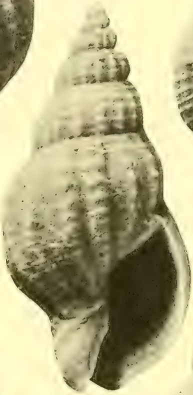
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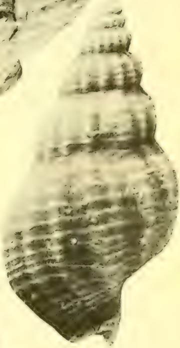
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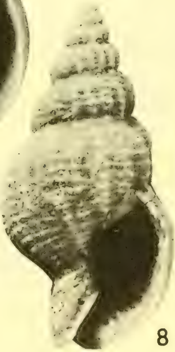
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EXPLANATION OF PLATE 12

Figure		Page
1, 2.	**Malea cf. camura** Guppy	190
	Height 67.0 mm, width 53.0 mm. Locality 10707. No. H 15450.	
3-8.	**Cymatophos glareosus,** n. sp.	192
	3, 4. Holotype. Height 29.0 mm, width 15.2 mm. Locality 10710. No. H 15454. 5, 6. Paratype. Height 26.2 mm, width 13.0 mm. Locality 10710. No. H 15455. 7, 8. Paratype. Height 23.4 mm, width 12.0 mm. Locality 10710. No. H 15456.	

EXPLANATION OF PLATE 13

Figure Page

1. **Fusinus** species A 194

Height 94 mm, width 45 mm. Locality 10109. No. H 15464.

2, 3. **Cymatophos** ? species 193

2. Height 28.0 mm, width 15.7 mm. Locality 10710. No. H 15458. 3. Height 25.5 mm, width 13.7 mm. Locality 10710. No. H 15457.

4, 5. **Mitra** species A 200

Height 31.1 mm, width 10.2 mm. Locality 10710. No. H 15475.

6. **Oliva (Oliva)** cf. **cristobalcoloni** Maury 195

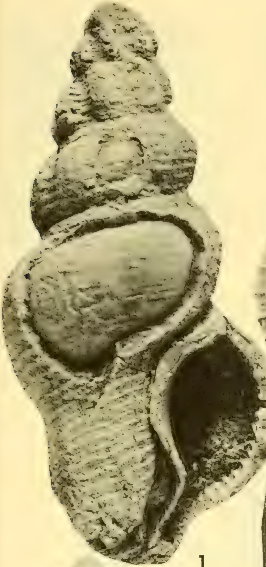
Height 48 mm, width 20.2 mm. Locality 10109. No. H 15465.

7, 8. **Oliva (Omogymna ?) valens,** n. sp. 195

7. Holotype. Height 41.2 mm, width 19.0 mm. Locality 10703. No. H 15466. 8. Paratype. Height 32.3 mm, width 15.3 mm. Locality 10109. No. H 15467.

9, 10. **Metaphos** ? species A 194

Height 31.2 mm, width 13.8 mm. Locality 10710. No. H 15459.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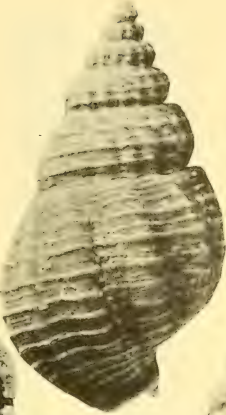
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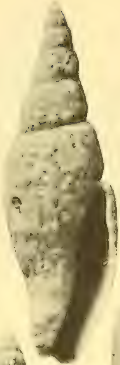
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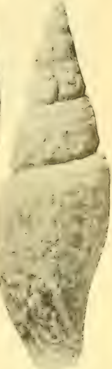
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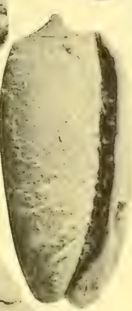
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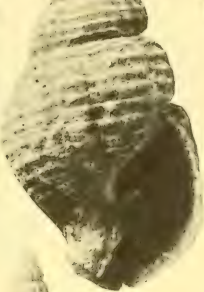
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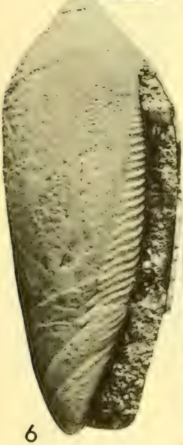
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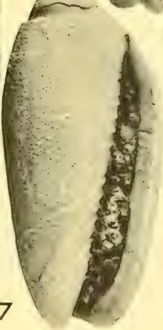
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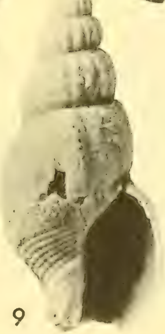
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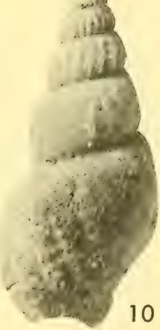
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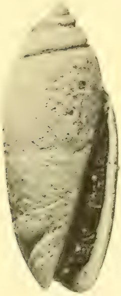

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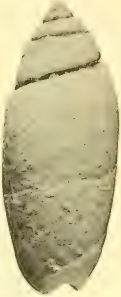

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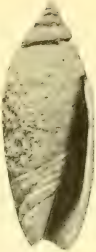

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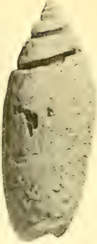

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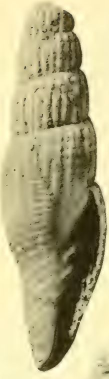

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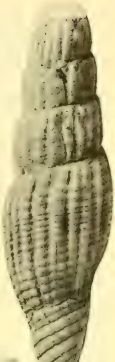

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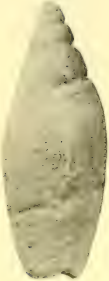

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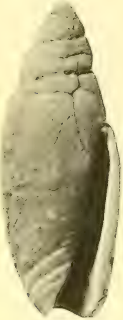

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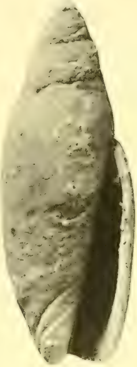

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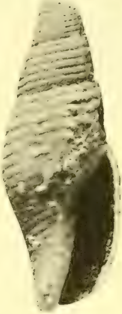

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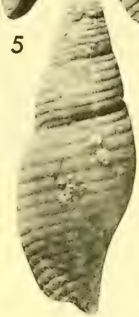

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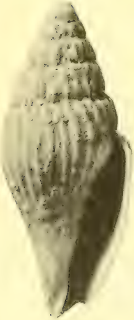

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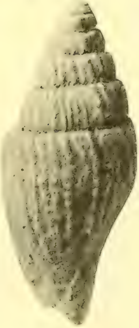

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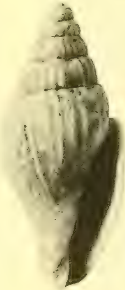

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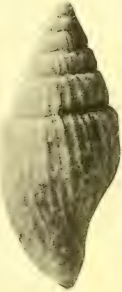

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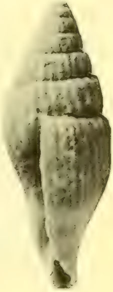

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Explanation of Plate 14

Figure Page

1-4. **Oliva (Strephonella ?) delata,** n. sp. 196

1, 2. Holotype. Height 31.8 mm, width 13.3 mm. Locality 10710. No. H 15468. 3, 4. Paratype. Height 26.6 mm, width 10.7 mm. Locality 10710. No. H 15469.

5, 6. **Mitra** aff. **mauryae** Anderson 198

Height 32.0 mm, width 9.3 mm. Locality 10812. No. H 15473.

7-9. **Jaspidella** ? **balba,** n. sp. 197

7. Paratype. Height 15.5 mm, width 6.0 mm. Locality 10710. No. H 15472. 8. Holotype. Height 17.6 mm, width 6.8 mm. Locality 10710. No. H 15470. 9. Paratype. Height 20.4 mm, width 7.5 mm. Locality 10710. No. H 15471.

10, 11. **Mitra limata,** n. sp. 199

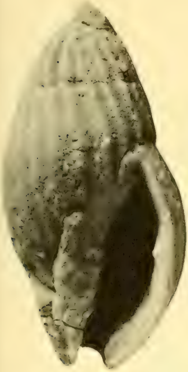
Holotype. Height 21.0 mm, width 8.2 mm. Locality 10710. No. H 15474.

12-16. **Conomitra lehneri,** n. sp. 200

12, 13. Paratype. Height 27.7 mm, width 11.3 mm. Locality 10710. No. H 15461. 14-16. Holotype. Height 24.8 mm, width 10.1 mm. Locality 10710. No. H 15460.

EXPLANATION OF PLATE 15

Figure		Page
1-3.	**Enaeta trechmanni,** n. sp.	201
	1, 2. Holotype. Height 20.5 mm, width 10.4 mm. Locality 10710. No. H 15462. 3. Paratype. Height 21.4 mm, width 10.2 mm. Locality 10710. No. H 15463.	
4-7.	**Polystira opulenta,** n. sp.	203
	4, 5. Paratype. Height 41.0 mm, width 18.3 mm. Locality 10710. No. H 15483. 6, 7. Holotype. Height 42.0 mm, width 17.7 mm. Locality 10710. No. H 15482.	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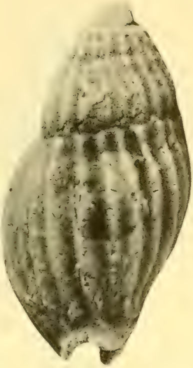
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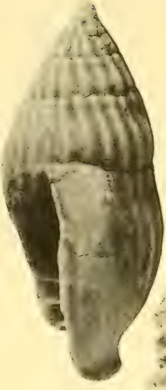
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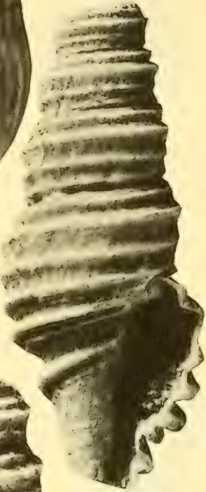
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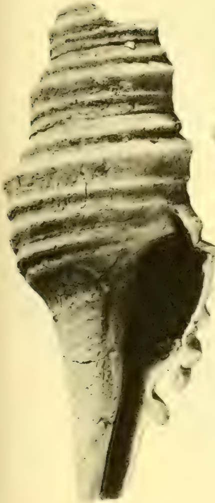
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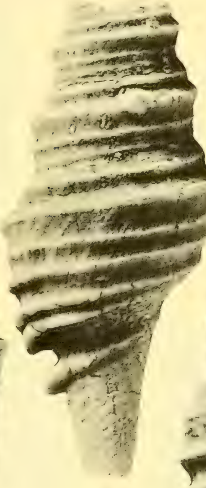
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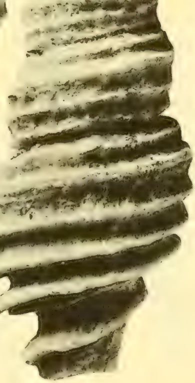
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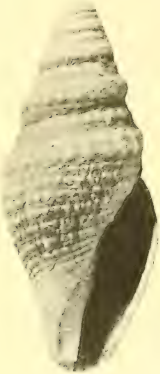
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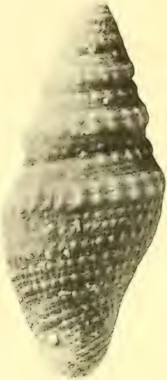
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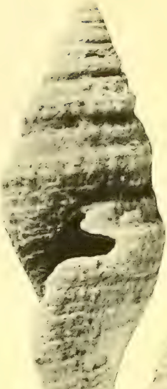
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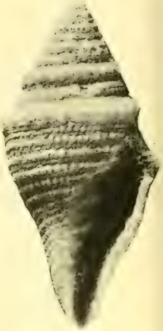
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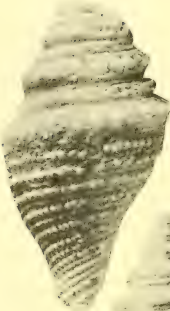
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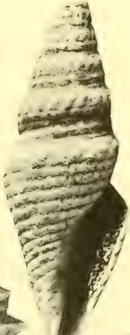
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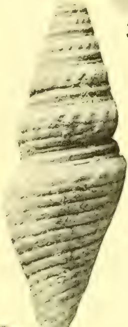
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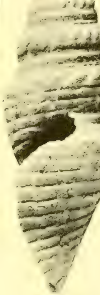
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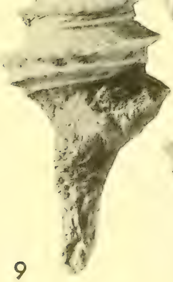
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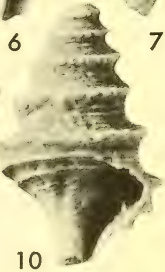
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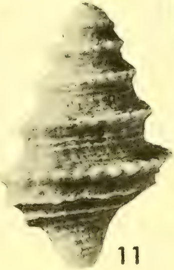
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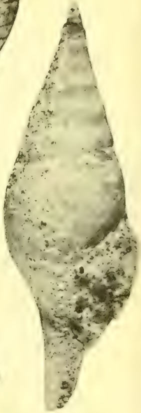
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Explanation of Plate 16

Figure Page

1-3. **Paraborsonia varicosa** (G. B. Sowerby II) 204

1, 2. Height 25.2 mm, width 11.0 mm. Locality 10710. No. H 15478. 3. Height 29.6 mm, width 12.5 mm. Locality 10710. No. H 15479.

4, 5. **Paraborsonia laeta,** n. sp. 205

4. Holotype. Height 22.0 mm, width 10.6 mm. Locality 10710. No. H 15480. 5. Paratype. Height 21.0 mm, width 11.2 mm. Locality 10710. No. H 15481.

6-8. **Mitratoma insularum,** n. sp. 206

Holotype. Height 37.6 mm, width 13.7 mm. Locality 10710. No. H 16490.

9-11. **Caritoma antillarum,** n. sp. 207

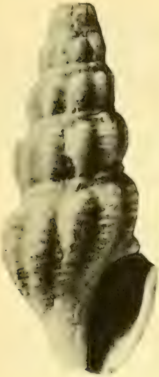
9. Holotype. Height 32.4 mm, width 14.7 mm. Locality 10812. No. H 15484. 10, 11. Paratype. Height 23.0 mm, width 15.0 mm. Locality 10710. No. H 15485.

12. **Aforia** aff. **ecuadoriana** Olsson 202

Height 68.0 mm, width 23.2 mm. Grand Bay cliff. British Museum (Natural History). Dept. Palaeont., No. GG 4437. Specimen figured by Trechmann, 1935, pl. 21, fig. 14 as *Pleurotoma (Surcula)* sp. Photograph courtesy British Museum (Natural History).

EXPLANATION OF PLATE 17

Figure		Page
1, 2.	**Crassispira** cf. **henekeni** (G. B. Sowerby II) Height 31.0 mm, width 12.3 mm. Locality 10710. No. H 16492.	208
3-5.	**Hindsiclava consors** (G. B. Sowerby II) Height 32.8 mm, width 10.6 mm. Locality 10710. No. H 16491.	208
6.	**Conus** cf. **consobrinus** G. B. Sowerby II Height 46.7 mm. width 22.4 mm. Locality 10710. No. H 16494.	210
7.	**Conus** cf. **aemulator** Brown and Pilsbry Height 45.1 mm, width 26.4 mm. Grand Bay cliff. British Museum (Natural History), Dept. Palaeont., No. GG 4420. Specimen figured by Trechmann, 1935, pl. 21, fig. 10. Photograph courtesy British Museum (Natural History).	210
8.	**Conus** species Height 62.4 mm, width 32.7 mm. Locality 10109. No. H 16495.	210
9.	**Conus** aff. **talis** Jung Height 33.0 mm, width 16.2 mm. Locality 10710. No. H 16496.	211
10-12.	**Conus** cf. **imitator** Brown and Pilsbry 10. Height 32.7 mm, width 17.2 mm. Locality 10710. No. H 16497. 11, 12. Height 32.3 mm, width 18.0 mm. Locality 10710. No. H 16498.	211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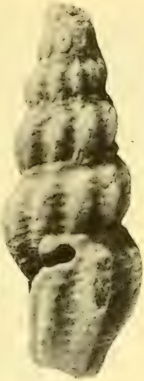
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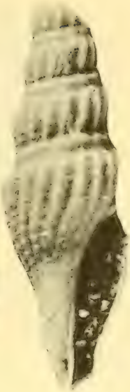
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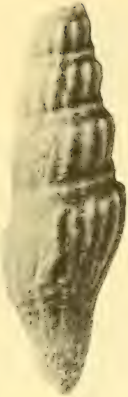
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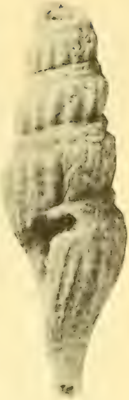
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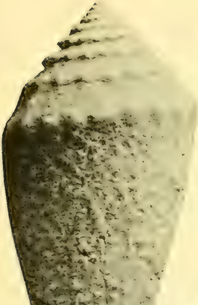
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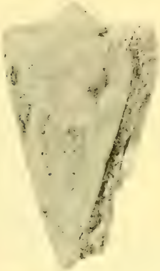
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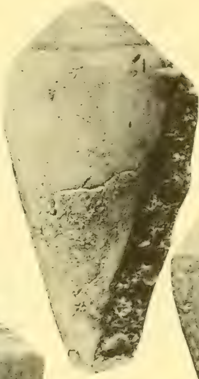
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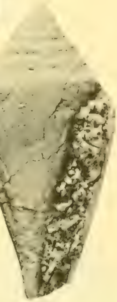
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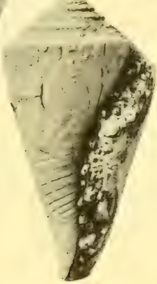
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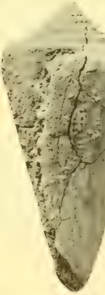
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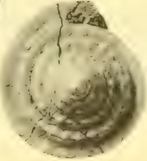
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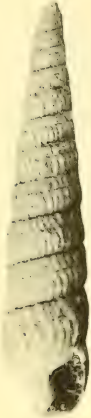
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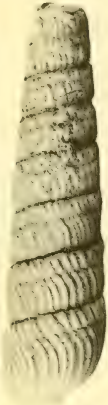
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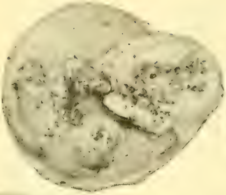
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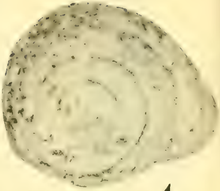
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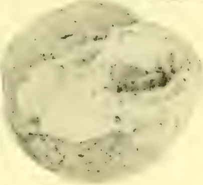
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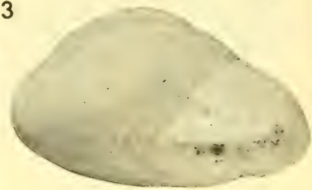
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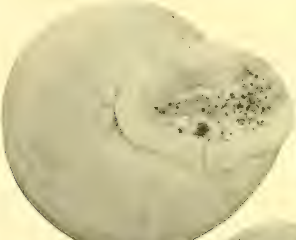
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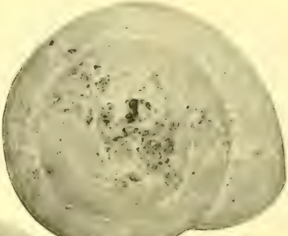
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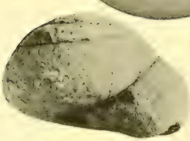
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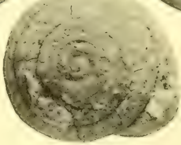
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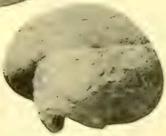
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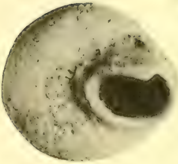
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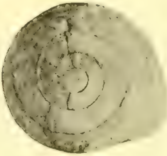
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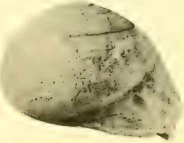
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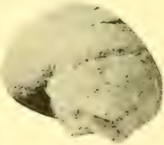
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EXPLANATION OF PLATE 18

Figure Page

1, 2. **Terebra (Myurellina) insulae,** n. sp. 212

1. Holotype. Height 45.0 mm, diameter 9.8 mm. Locality 10710. No. H 15476. 2. Paratype. Height 43.2 mm, diameter 11.3 mm. Locality 10710. No. H 15477.

3-15. **Pleurodonte (Pleurodonte) lehneri** (Trechmann) 225

3, 4. Lectotype. Height 12.6 mm, width 17.7 mm. Point St. Hilaire. British Museum (Natural History), Dept. Palaeont., No. GG 4501. 5. Paralectotype. Diameter 17.2 mm. Point St. Hilaire. British Museum (Natural History), Dept. Palaeont., No. GG 4502. 6-8. Holotype of *Helix (Caprinus) carriacouensis* Trechmann. Height 15.3 mm, width 24.6 mm. Tarlton's Point. British Museum (Natural History), Dept. Palaeont., No. GG 4506. Photographs for figures 3-8: courtesy British Museum (Natural History). 9-11. Height 11.2 mm, width 16.3 mm. Locality 10730. No. H 16488. 12-15. Height 11.8 mm, width 15.1 mm. Locality 10708. No. H 16489.

EXPLANATION OF PLATE 19

Figure		Page
1-4.	**Vaginella grenadinarum,** n. sp.	213

1, 2. Holotype. Length 7.4 mm, transverse diameter 4.0 mm, dorso-ventral diameter 3.0 mm. Locality 10108. No. H 15486. 3. Paratype. Length 7.0 mm, transverse diameter 3.9 mm, dorso-ventral diameter 2.7 mm. Locality 10108. No. H 15487. 4. Paratype. Length 7.2 mm, transverse diameter 3.6 mm, dorso-ventral diameter 2.8 mm. Locality 10108. No. H 15488.

5-7.	**Vaginella** cf. **depressa** Daudin	214

5. Length 4.9 mm, transverse diameter 2.0 mm, dorso-ventral diameter 1.6 mm. Locality 10699. No. H 15489. 6. Length 5.0 mm, transverse diameter 2.3 mm, dorso-ventral diameter 1.8 mm. Locality 10699. No. H 15490. 7. Length 4.9 mm, transverse diameter 1.9 mm, dorso-ventral diameter 1.7 mm. Locality 10699. No. H 15491.

8-11.	**Vaginella** aff. **undulata** (Gabb)	215

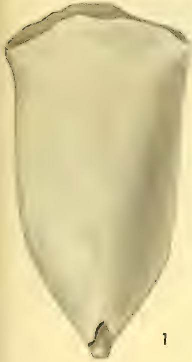
8, 9. Length 7.6 mm, transverse diameter 3.9 mm. Locality 10779. No. H 15493. 10, 11. Length 11.2 mm, transverse diameter 3.1 mm, maximum dorso-ventral diameter 2.1 mm. Locality 10779. No. H 15492.

12, 13.	**Vaginella** species A	216

Length 10.6 mm, transverse diameter 2.7 mm, dorso-ventral diameter 1.7 mm. Locality 10779. No. H 15494.

14, 15.	**Styliola sulcifera** Gabb	216

14. Length 4.5 mm. Locality 10779. No. H 15495. 15. Length 3.8 mm. Locality 10779. No. H 15496.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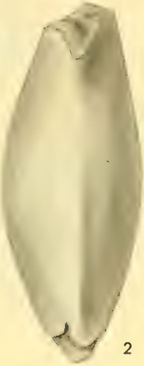
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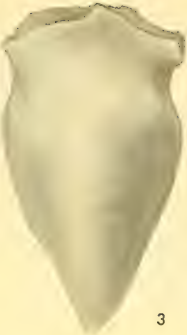
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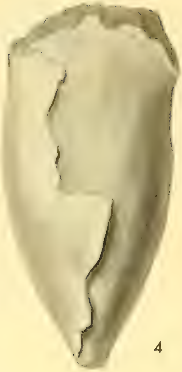
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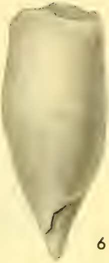
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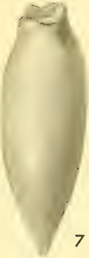
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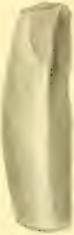
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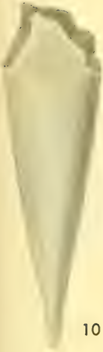
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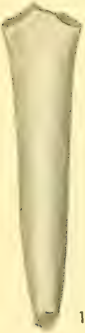
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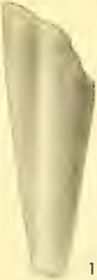
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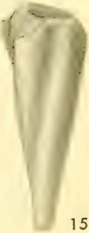
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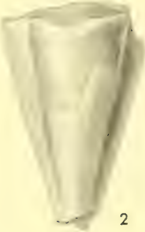
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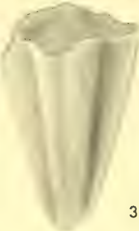
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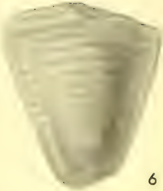
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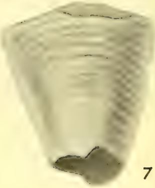
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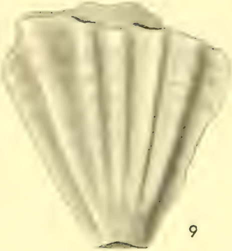
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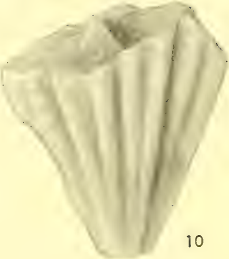
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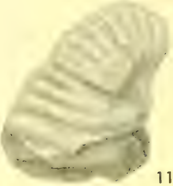
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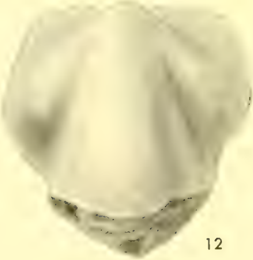
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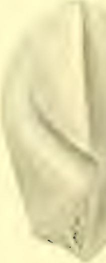
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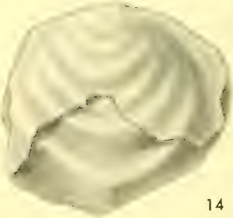
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Explanation of Plate 20

Figure Page

1-4. **Clio kendacensis,** n. sp. 217

1-3. Holotype. Length 7.4 mm, maximum transverse diameter 4.8 mm, maximum dorso-ventral diameter 2.7 mm. Locality 10779. No. H 15497. 4. Paratype. Length 9.3 mm, maximum transverse diameter 5.1 mm, maximum dorso-ventral diameter 2.4 mm. Locality 10737. No. H 15498.

5-7. **Clio** cf. **pedemontana** (Mayer) 219

Length 6.2 mm, maximum transverse diameter 5.3 mm, maximum dorso-ventral diameter 2.9 mm. Locality 10778. No. H 15500.

8-10. **Clio** cf. **pulcherrima** (Mayer) 218

Length 8.8 mm, maximum transverse diameter 7.7 mm, maximum dorso-ventral diameter 2.1 mm. Locality 10778. No. H 15499.

11. **Carinaria** species 183

Length of fragment 7.2 mm. Locality 10108. No. H 16487.

12-14. **Cavolinia regulae,** n. sp. 221

12, 13. Holotype. Length 8.8 mm, width 8.4 mm, dorso-ventral diameter 5.0 mm. Locality 10737. No. H 16484. 14. Paratype. Length 7.5 mm, width 7.9 mm, dorso-ventral diameter 3.8 mm. Locality 10753. No. H 16485.

EXPLANATION OF PLATE 21

Figure Page

1-6. **Cavolinia pycna,** n. sp. 220

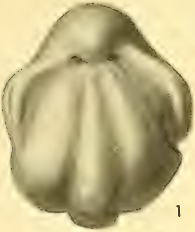
1-3. Holotype. Length 3.0 mm, width 2.6 mm, dorso-ventral diameter 2.0 mm. Locality 10108. No. H 16482. 4-6. Paratype. Length 2.8 mm, width 2.3 mm, dorso-ventral diameter 2.3 mm. Locality 10779. No. H 16483.

7-14. **Sphaerocina formae** (Audenino) 223

7-9. Height 3.4 mm, width 5.2 mm. Locality 10698. No. H 16499. 7. Front view. 8. Apertural view. 9. Apical view. 10-14. Height 3.0 mm, width 4.5 mm. Locality 10699. No. H 16500. 10. Front view. 11. Apertural view. 12. Rear view. 13. Umbilical view. 14. Apical view.

15-17. **Protatlanta** species 183

Height 1.4 mm, maximum diameter 3.0 mm. Locality 10737. No. H 16486.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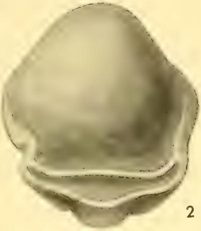
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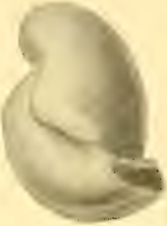
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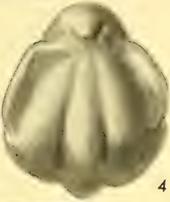
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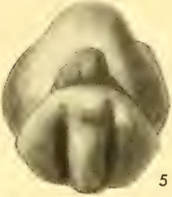
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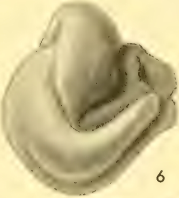
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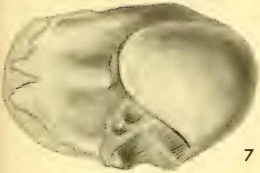
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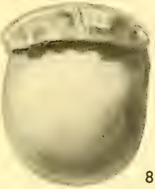
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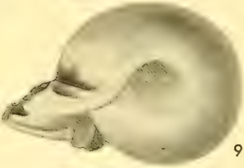
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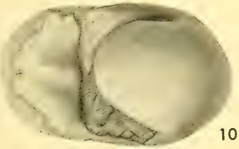
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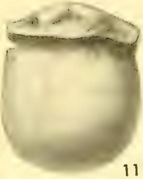
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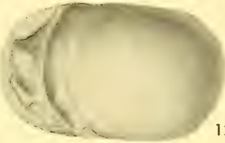
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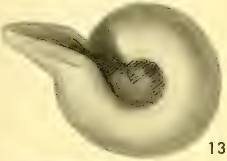
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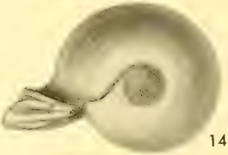
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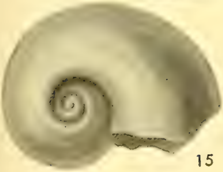
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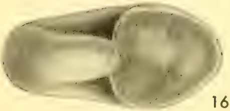
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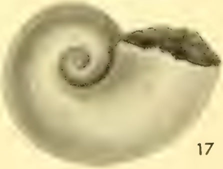
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By

EMILE A. PESSAGNO, JR.

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CRETACEOUS RADIOLARIA

PART I: THE PHASELIFORMIDAE, NEW FAMILY, AND OTHER SPONGODISCACEA FROM THE UPPER CRETACEOUS PORTION OF THE GREAT VALLEY SEQUENCE. PART II: PSEUDOAULOPHACIDAE RIEDEL FROM THE CRETACEOUS OF CALIFORNIA AND THE BLAKE-BAHAMA BASIN (JOIDES LEG I)

By

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PART I. THE PHASELIFORMIDAE, NEW FAMILY, AND OTHER SPONGODISCACEA FROM THE UPPER CRETACEOUS PORTION OF THE GREAT VALLEY SEQUENCE

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CRETACEOUS RADIOLARIA
PART I: THE PHASELIFORMIDAE, NEW FAMILY, AND OTHER SPONGODISCACEA FROM THE UPPER CRETACEOUS PORTION OF THE GREAT VALLEY SEQUENCE

EMILE A. PESSAGNO, JR.

ABSTRACT

The Phaseliformidae, new family, include Spongodiscacea with subellipsoidal tests which are compressed posteriorly and inflated anteriorly. One new genus, *Phaseliforma,* and three new species of Phaseliformidae are described herein. Two new species assignable to *Parvicuspis,* n. genus, are also described. *Parvicuspis* has a flattened elliptical test which is truncated posteriorly and pointed to rounded anteriorly. It is likely that *Parvicuspis* belongs to a new family group within the Spongodiscacea.

INTRODUCTION

This paper represents the fifth in a series of reports (Pessagno 1969b, 1970, 1971a, 1971b) which deal with the Upper Cretaceous Radiolaria of the Great Valley Sequence. It is the second report dealing with spongodiscid Spumellariina.

The Spongodiscacea are one of the most persistent elements in the Mesozoic radiolarian assemblage. In the Great Valley Sequence spongodiscids occur in both limestone nodules and in mudstones or shales. Although a number of fragile Radiolaria occur in residues derived from acidized limestones, they are absent in most residues derived from mudstones and shales. Only the spongodiscids and the sturdiest Nassellariina remain — the more fragile types of Radiolaria being destroyed by sedimentary compaction.

The Phaseliformidae, n. fam., are particularly common in the late Campanian strata of the Great Valley Sequence. Several species of *Phaseliforma,* n. gen., are short ranging and are important in developing a detailed system of radiolarian zonation for the California Upper Cretaceous.

Parviscuspis, n. gen., and its included species are relatively common in early Campanian shales and limestones. In so far as known both species of *Parvicuspis* described in this report are restricted to the early Campanian and appear to be important markers.

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LOCALITY DESCRIPTIONS

NSF 32-B. Lower part of the Forbes Formation ("Dobbins Shale" Member); 15 feet above contact between Forbes Formation and the underlying Guinda Formation. Gray calcareous mudstone with abundant limestone nodules; sample from limestone nodules. Tributary to Petroleum Creek, Yolo County, California. USGS Rumsey Quad. (7.5′). T12N; R3W; Sect. 10; 1.5 miles N43°W of VABM Guinda 1798. This locality occurs at about the same horizon as *NSF 134-B*. See planktonic foraminiferal data from *NSF 134-B* and planktonic foraminiferal and megafossil data presented under *NSF 55-B*.

NSF 55-B. Lower part of the Forbes Formation (upper part of so-called "Dobbins Shale" Member); 424 feet above contact between Forbes Formation with underlying Guinda Formation. Gray calcareous mudstone with sparse limestone nodules. Tributary to Petroleum Creek, Yolo County, California. USGS Rumsey Quad. (7.5′). T12N; R3W; Sect. 10; 1.5 miles N35°W of VABM Guinda 1798. Associated planktonic Foraminifera recorded by the writer from this horizon include *Globotruncana arca* (Cushman), *Globotruncana rosetta* (Carsey), *Globotruncana loeblichi* Pessagno, *Rugoglobigerina* sp. aff. *R. rugosa* (Plummer), *Globotruncana linneiana* (d' Orbigny) *s. s.*, *Globotruncana lapparenti* (Brotzen) *s. s.*, and *Sigalia ornatissima* (Cushman and Church). The lack of *Globotruncana hilli* Pessagno and *Globotruncana churchi* Martin in this assembladge suggests an early Campanian age (see data presented by Douglas, 1969, p. 154 and Pessagno, 1967, 1969a, text-figure 5). "*Inoceramus orientalis*" (identified by D. L. Jones, USGS, Menlo Park, California) was collected by the writer at *NSF 40-B* in the lower Forbes ("Dobbins Shale" Member). According to Jones this species is indicative of an early Campanian age. *NSF 40-B* is situated 295 feet below *NSF 55-B* and 128 feet above the Forbes-Guinda contact.

NSF 134-B. Lower part of the Forbes Formation ("Dobbins Shale" Member); 60 feet above contact between Forbes Formation and the underlying Guinda Formation. Gray calcareous mudstone with abundant limestone nodules; sample from limestone nodules. Tributary to Petroleum Creek, Yolo County, California. USGS Rumsey Quad. (7.5′). T12N; R3W; Sect. 15; 1.1 miles N36°W of VABM Guinda 1798. Planktonic Foraminifera recovered from mudstones (*NSF 134-A*) at this locality include *Globotruncana arca* (Cushman), *Globotruncana rosetta* (Carsey) *s. l., Globotruncana lapparenti* (Brotzen).

NSF 214-C. See *NSF 480*.

NSF 222. Upper part of Forbes Formation (Upper Cretaceous undifferentiated of California Division of Mines Bulletin 181, Map 3: Geologic Map of Putah Creek. Gray siliceous to slightly calcareous mudstone. USGS Mt. Vaca Quad. (7.5′); R2W; T6N; projected Sect. 12. Roadcut approximately 0.6 miles northwest from intersection of Gates Canyon Road with Lagoon Valley Road. 0.55 miles S10°E on FM 328 on Pleasant Valley Road.

NSF 450. Limestone nodules associated with light gray calcareous mudstones. Upper part of Panoche Group (undifferentiated). Exploration Adit number 1: 110-270 feet. California Dept. of Water Resources. Div. of Design and Construction; Del Valle Dam and Reservoir Damsite Foundation Exploration. U.S. Army Corps. of Engineers, Tesla Quad. (15′). Co-ordinates E 1, 639,000; N 408,250. Associated planktonic Foraminifera at this horizon include *Globotruncana churchi* Martin, *Globotruncana hilli* Pessagno, *Globotruncana linneiana* (d'Orbigny), *Globotruncana arca* (Cushman), *Globotruncana bulloides* Vogler, *Globotruncana rosetta* (Carsey), and *Sigalia ornatissima* (Cushman and Church). Data presented by Pessagno (1967, 1969a) demonstrated that *Globotruncana hilli* Pessagno first appeared at the base of the *Globotruncana calcarata* Zonule. Douglas (1969, p. 154) indicated that *G. churchi* is restricted to the late Campanian.

NSF 480, 481, 214C. Upper part of Forbes Formation (Upper Cretaceous undifferentiated of California Division of Mines Bulletin 181, Map 3: Geol. Map of Putah Creek). Gray mudstones and sandstones cropping out in creek bed downstream from spillway of small holding pond. *NSF 480*: Gray siliceous mudstone; 100 feet downstream from spillway of lake. *NSF 481*: Gray siliceous mudstone cropping out about 20 feet downstream from spillway of lake. *NSF 214-C*. Gray siliceous mudstone cropping out near 2 foot bed of cream-colored radiolarite; 200 feet downstream from spillway of lake. USGS Mt. Vaca Quad. (7.5′). R2W; T7N; Section 11 (SW. 1/4) near Pleasant Valley Road.

NSF 482. Forbes Formation; lower part of "Dobbins Shale" Member near contact with underlying Guinda Formation. Abundant limestone nodules associated with dark gray mudstones. USGS Brooks Quad. (7.5′); R2W; T10N; Sect. 30; 0.22 miles N20°E of Big Spring, Yolo County, California. Associated megafossils collected at this locality by the writer and identified by D. L. Jones (USGS, Menlo Park, California) include "*Inoceramus orientalis*, *Bostrychoceras* sp. and *Anagaudryceras* sp." Jones indicated that the megafossils are of early Campanian age.

NSF 483. Yolo Formation. Horizon of small limestone nodules in a sequence of dark gray mudstones, siltstones, and sandstones. Monticello Dam Quad. (7.5′); T8N, R2W; Sect. 28. Route 128 (Solano County) at southeast side of horseshoe bend in road; Cold Canyon; 0.23 miles southwest of Route 128 highway bridge over Putah Creek.

NSF 568-B, *571*, *572-B*. "Marsh Creek Formation". Samples from limestone nodules interbedded with dark gray siliceous to calcareous mudstones. Antioch South Quad. (7.5′). T1N; R2E; Sect. 32. South bank of Marsh Creek; Deer Valley Road Crossing of Marsh Creek, Contra Costa County, California. *NSF 568-B* by bridge; *NSF 571* and *NSF 572-B* 0.10 to 0.15 miles downstream from bridge respectively. Associated planktonic Foraminifera present at this horizon include *Globotruncana churchi* Martin, *Globotruncana arca* (Cushman), and *Sigalia ornatissima* (Cushman and Church). Biostratigraphic data from the Putah Creek, Pleasant Valley, and Tesla areas indicate that the radiolarian assemblage present at *NSF 568-B*, *NSF 571*, and *NSF 572* is correlative with the upper part of the *G. calcarata* Zonule of Pessagno (1967, 1969a).

NSF 649. "Marsh Creek Formation". Sample from E. H. Stinemeyer, Shell Oil Company. Gray mudstone. Marsh Creek area: Shell Sample # 30. USGS Antioch South Quad. T1N; R1E; Proj. Section 27. "Turonian".

SYSTEMATIC PALEONTOLOGY

Phylum PROTOZOA
Subphylum SARCODINA
Class ACTINOPODEA
Subclass RADIOLARIA
Order POLYCYSTIDA
Suborder SPUMELLARIINA

Superfamily **SPONGODISCACEA** Haeckel

Remarks. — Pessagno (1971a, p. 16) defined the Spongodiscacea to include Spumellariina with spongy tests of variable shape lacking sieve plates, lattice shells, or chambered rays. The pore frames comprising the spongy meshwork may be arranged with or without symmetry.

Subsuperfamily **PSEUDOAULOPHACILAE** Riedel

Remarks. — The Pseudoaulophacilae as defined by Pessagno (1971a, p. 19) include only those Spongodiscacea having spongy meshwork arranged symmetrically in spirals, concentric rings, parallel layers, and so forth. The overall shape of the test varies with the family or subfamily.

Family **PHASELIFORMIDAE** Pessagno, n. family

Type genus. — *Phaseliforma* Pessagno, n. genus.

Description. — Tests subellipsoidal, thicker on anterior end than posterior end (Pl. 22, fig. 8). Internal meshwork, weakly concentric (Pl. 22, fig. 9; Pl. 23, fig. 3).

Remarks. — The Phaseliformidae differ from the Sponguridae Haeckel (1) by possessing a subellipsoidal test which is more compressed at one end than at the other; (2) by possessing concentric meshwork internally; and (3) by lacking spines.

The Phaseliformidae appear to have been most diversified during late Campanian times.

Occurrence. — Great Valley Sequence, California Coast Ranges. Upper Cretaceous of Eurasia.

Genus **PHASELIFORMA** Pessagno, n. gen.

Type species. — *Phaseliforma carinata* Pessagno, n. sp.

Description. — Test as with family. Meshwork comprised of irregular polygonal frames lacking nodes at vertices. Test varying in width; often markedly compressed at posterior end, developing an angled periphery or keel. Some species with V-shaped indentations close to center of one side.

Remarks. — *Phaseliforma*, n. gen., differs from *Spongurus* Haeckel by its more flattened test, by its lack of spines, and by its possession of concentric meshwork internally.

Phaselus, —i (Latin, M). = kidney bean +*forma, —ae* (Latin, F.) = form, shape.

Range. — Late Turonian/early Coniacian to latest Campanian.

Occurrence. — Great Valley Sequence, California Coast Ranges. Upper Cretaceous of Russia.

Phaseliforma carinata Pessagno, n. sp. Pl. 22, figs. 1-3, 8; Pl. 23, fig. 1

Description. — Test bean-shaped; about two-thirds as wide as long with V-shaped indentation along middle of one side. Test compressed posteriorly with well-developed angled periphery or keel. Meshwork with irregularly polygonal pore frames. Pore frames tetragonal to pentagonal, sometimes hexagonal; pores circular to elliptical; keel somewhat less perforate.

Remarks. — *Phaseliforma carinata*, n. sp., differs from *Phaseliforma concentrica* (Lipman) (1) by having a test which has a greatly compressed posterior end; (2) by possessing an angled periphery; and (3) by having a V-shaped indentation along the middle of one of its sides.

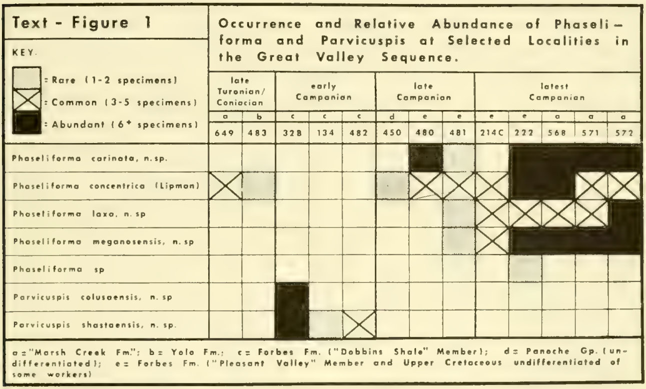
Carinata from *carina, —ae*(Latin, F) = keel.

Measurements. —

Specimen	Maximum Length microns	Maximum Width microns
1. Holotype (USNM 165575)	360	210
2. Paratype (USNM 165576)	360	210
3. Paratype (USNM 165576)	370	230
4. Paratype (Pessagno Coll.)	465	240
5. Paratype (Pessagno Coll.)	360	215
6. Paratype (Pessagno Coll.)	325	205
7. Paratype (Pessagno Coll.)	380	225

Specimen	Maximum Length microns	Maximum Width microns
8. Paratype (USNM 165577)	420	250
9. Paratype (USNM 165577)	310	210
10. Paratype (USNM 165577)	375	225
11. Paratype (USNM 165577)	350	210

Type locality — Holotype and some paratypes from *NSF 568-B;* remaining paratypes from *NSF 571.* See Locality Descriptions and Text-figure 1.



Text - Figure 1

Occurrence and Relative Abundance of Phaseliforma and Parvicuspis at Selected Localities in the Great Valley Sequence.

KEY.

░ : Rare (1-2 specimens)

☒ : Common (3-5 specimens)

■ : Abundant (6+ specimens)

	late Turonian/ Coniacian		early Campanian			late Campanian			latest Campanian				
	a	b	c	c	c	d	e	e	e	e	a	a	a
	649	483	328	134	482	450	480	481	214C	222	568	571	572
Phaseliforma carinata, n. sp.							■	░		■	■	■	■
Phaseliforma concentrica (Lipman)	☒	░				░	☒	☒	☒	■	■	☒	☒
Phaseliforma laxa, n. sp								░	☒	☒	☒	☒	■
Phaseliforma meganosensis, n. sp								░	☒	■	■	■	■
Phaseliforma sp										░			
Parvicuspis colusaensis, n. sp			■										
Parvicuspis shastaensis, n. sp.			■	░	☒								

a = "Marsh Creek Fm."; b = Yolo Fm.; c = Forbes Fm. ("Dobbins Shale" Member); d = Panoche Gp. (undifferentiated); e = Forbes Fm. ("Pleasant Valley" Member and Upper Cretaceous undifferentiated of some workers)

Deposition of types. — Holotype = USNM 165575. Paratypes = USNM 165576-165577 and Pessagno Collection, University of Texas at Dallas.

Range. — Latest Campanian. Although it is certain that the range zone of this species does not extend below the latest Campanian, it may well extend into the Maestrichtian. The Maestrichtian is poorly represented or absent in the Coast Ranges of northern California.

Occurrence. — See Text-figure 1 and Locality Descriptions.

Phaseliforma concentrica (Lipman) Pl. 22, fig. 7

1952. *Cromyodruppa concentrica* Lipman, Transaction of the All-Union Geological Scientific Research Institute, Paleontology and Stratigraphy (Trudy VSEGEI), p. 29, pl. 1, figs. 8, 9.

Remarks. — Specimens of this species in the writer's samples show the posterior compression of the test characteristic of all Phaseliformidae. Posterior compression was not mentioned by Lipman (1952, p. 29).

Range. — Late Turonian/early Coniacian to late Campanian.

Occurrence. — The occurrence of *P. concentrica* (Lipman) in the Upper Cretaceous portion of the Great Valley Sequence is shown in Text-figure 1. Lipman (*ibid.*, p. 29) noted that this species was encountered in strata of Santonian and Campanian age in the Kugnetsk area of the Russian Platform.

Phaseliforma laxa Pessagno, n. sp. Pl. 23, figs. 7-9

Description. — Test wide, elliptical in shape, more compressed posteriorly than anteriorly. Meshwork with proportionately large hexagonal to pentagonal pore frames with circular to elliptical pores.

Remarks. — *Phaseliforma laxa,* n. sp., differs from *P. carinata,* n. sp., (1) by having regular hexagonal to pentagonal pore frames; (2) by being much less compressed posteriorly; (3) by lacking a central V-shaped indentation on one side of the test; and (4) by lacking a keel. *P. laxa,* n. sp. differs from *P. concentrica* (Lipman) by its proportionately wider and more symmetrical test and by the more uniform shape of its pore frames and pores.

Laxus, —a, —um = wide (Latin, adj.)

Measurements. —

Specimen	Maximum Length microns	Maximum Width microns
1. Holotype (USNM 165578)	360	215
2. Paratype (USNM 165579)	270	170
3. Paratype (USNM 165579)	260	150
4. Paratype (USNM 165579)	290	170
5. Paratype (Pessagno Coll.)	310	190
6. Paratype (Pessagno Coll.)	260	180
7. Paratype (Pessagno Coll.)	280	160
8. Paratype (Pessagno Coll.)	200	150
9. *NSF 222.*	310	210
10. *NSF 222.*	355	260
11. Paratype (Pessagno Coll.)	280	190

Type locality. — *NSF 572.* See Locality Descriptions and Text-figure 1.

Deposition of types. — Holotype = USNM 165578. Paratypes = USNM 165579 and Pessagno Collection.

Range. — Latest Campanian.

Occurrence. — See Text-figure 1 and Locality Descriptions.

Phaseliforma meganosensis Pessagno, n. sp. Pl. 22, figs. 4-6, 9; Pl. 23, fig. 6

Description. — Test elongate; narrower posteriorly than anteriorly with indentation on one side posteriorly. Meshwork with irregularly shaped tetragonal to pentagonal pore frames. Pores circular to elliptical.

Remarks. — *Phaseliforma meganosensis*, n. sp., differs from *Phaseliforma carinata*, n. sp., (1) by being narrower posteriorly; (2) by being less compressed posteriorly and lacking an angled periphery; (3) by having an indentation situated posteriorly rather than centrally along one side of the test.

This species is named for the region known as Los Meganos near its type locality.

Measurements. —

Specimen	Maximum Length microns	Maximum Width microns
1. Holotype (USNM 165566)	430	200
2. Paratype (USNM 165567)	400	170
3. Paratype (USNM 165567)	400	180
4. Paratype (USNM 165567)	380	170
5. Paratype (USNM 165567)	430	190
6. Paratype (USNM 165568)	420	185
7. Paratype (USNM 165568)	475	190
8. Paratype (Pessagno Coll.)	460	190
9. Paratype (Pessagno Coll.)	390	170
10. Paratype (Pessagno Coll.)	410	170
11. Paratype (Pessagno Coll.)	420	180

Type locality. — Holotype from *NSF 568-B*. Paratypes from *NSF 568-B* and *NSF 571*. See Locality Descriptions.

Deposition of types. — Holotype = USNM 165566. Paratypes = USNM 165567-165568 and Pessagno Collection, University of Texas at Dallas.

Range. — Latest Campanian. See comment under *P. carinata*, n. sp.

Occurrence. — See Text-figure 1 and Locality Descriptions.

Phaseliforma sp. Pl. 23, fig. 3

Remarks. — This form appears closely related to *P. carinata,* n. sp. Like *P. carinata* it possesses a greatly compressed posterior end with a keel. However, it is far more convex along one side than is *P. carinata.*

Range and occurrence. — Late Campanian. See Text-figure 1.

Subsuperfamily **SPONGODISCILAE** Haeckel

Remarks. — The Spongodiscilae as defined by Pessagno (1971a, p. 19) include Spongodiscacea which possess spongy meshwork lacking any semblance of symmetrical arrangement.

Genus **PARVICUSPIS** Pessagno, n. genus

Type species. — *Parvicuspis shastaensis* Pessagno, n. sp.

Description. — Test elongate, subelliptical, pointed on anterior end and truncated on posterior end with V-shaped notch; test planiform to slightly inflated. Meshwork comprised of polygonal pore frames arranged unsymmetrically.

Remarks. — *Parvicuspis,* n. gen., differs from *Phaseliforma,* n. gen., by (1) being more planiform; (2) having a truncate posterior end with a V-shaped notch; and (3) possessing meshwork arranged unsymmetrically. Exclusive of *Phaseliforma* there are no other genera known to the writer that remotely resemble *Parvicuspis.*

No attempt at present is made to assign *Parviscuspis* to a given family. It is likely that it will be proven to belong to a new family group.

Pavus-a-um (Latin) = small + *cuspus* (Latin, f) = a spear point.

Range. — Early Campanian.

Occurrence. — Great Valley Sequence, California Coast Ranges.

Parvicuspis colusaensis Pessagno, n. sp. Pl. 23, fig. 4

Description. — Test slender, somewhat inflated anteriorly, elliptical in cross-section; flattened posteriorly. Meshwork with predominance of irregular, small pentagonal pore frames. Test assymmetrical, one side often more convex than other. Anterior end of test rounded rather than pointed. Posterior end of test often contorted.

Remarks. — *Parvicuspis colusaensis,* n. sp., differs from *Parvicuspis shastaensis,* n. sp., (1) by having a test that is more inflated anteriorly than posteriorly rather than planiform both anteriorly and posteriorly; (2) by possessing a rounded anterior end; (3) by having a proportionately narrower test; and (4) by possessing a contorted posterior end.

This species is named for Colusa County, California.

Measurements. —

Specimen	Maximum Length microns	Maximum Width microns
1. Holotype (USNM 165580)	365	120
2. Paratype (USNM 165581)	380	110
3. Paratype (USNM 165581)	440	140
4. Paratype (USNM 165581)	490	150
5. Paratype (USNM 165581)	?380+	90
6. Paratype (Pessagno Coll.)	280	120
7. Paratype (Pessagno Coll.)	?300+	100
8. Paratype (Pessagno Coll.)	300	100
9. Paratype (Pessagno Coll.)	440	140
10. Paratype (Pessagno Coll.)	310	100
11. Paratype (Pessagno Coll.)	?420+	150

+ = broken specimen.

Type locality. — *NSF 32-B.* See Locality Descriptions.

Deposition of types. — Holotype = USNM 165580. Paratypes = USNM 165581 and Pessagno Collection, University of Texas at Dallas.

Range. — Early Campanian.

Occurrence. — See Text-figure 1 and Locality Descriptions.

Parvicuspis shastaensis Pessagno, n. sp. Pl. 23, figs. 2, 5

Description. — Test symmetrical, planiform both anteriorly and posteriorly with a pointed anterior end. Meshwork comprised of irregular, relatively large tetragonal to hexagonal pore frames (predominantly pentagonal); individual pore frames with nodes at vertices.

Remarks. — *Parvicuspis shastaensis,* n. sp., differs from *Parvicuspis colusaensis,* n. sp., by having a planiform test with a pointed anterior end and by being proportionately wider.

This species is named for Mt. Shasta.

Measurements. —

Specimen	Maximum Length microns	Maximum Width microns
1. Holotype (USNM 165582)	360	170
2. Paratype (USNM 165583)	370	160
3. Paratype (USNM 165583)	465	210
4. Paratype (USNM 165583)	390	170
5. Paratype (USNM 165583)	360	150
6. Paratype (Pessagno Coll.)	340	150
7. Paratype (Pessagno Coll.)	350	180
8. Paratype (Pessagno Coll.)	380	150
9. Paratype (Pessagno Coll.)	350	150

Type locality. — *NSF 32-B.* See Locality Descriptions.

Deposition of types. — Holotype = USNM 165582. Paratypes = USNM 165583 and Pessagno Collection, University of Texas at Dallas.

Range. — Early Campanian.

Occurrence. — See Locality Descriptions and Text-figure 1.

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PART II. PSEUDOAULOPHACIDAE RIEDEL FROM THE CRETACEOUS OF CALIFORNIA AND THE BLAKE-BAHAMA BASIN (JOIDES LEG I)

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PART II. PSEUDOAULOPHACIDAE RIEDEL FROM THE CRETACEOUS OF CALIFORNIA AND THE BLAKE-BAHAMA BASIN (JOIDES LEG I)

EMILE A. PESSAGNO, JR.

ABSTRACT

The Pseudoaulophacidae Riedel are Radiolaria with spongy, lenticular tests composed of concentric layers of triangular pore frames. The family includes two genera: *Pseudoaulophacus* Pessagno *s.s.* and *Alievium,* n. gen., and 12 species, seven of which are new.

The Pseudoaulophacidae made their first appearance in the Early Cretaceous (Aptian) but did not become abundant until the Late Cretaceous (middle Turonian). During the Late Cretaceous they reached their maximum diversity and abundance during early Campanian times and rapidly declined during latest Campanian times.

This family includes the most abundant and cosmopolitan Radiolaria in the Upper Cretaceous. Most of the species described in this report are present both in the Boreal Faunal Province and Tethyan Faunal Province. A number of species are relatively short ranging and useful biostratigraphically.

INTRODUCTION

The Pseudoaulophacidae Riedel is one of the most cosmopolitan families of Radiolaria in the Upper Cretaceous. Many of the species described in this report occur throughout the Tethyan Faunal and Boreal Faunal Provinces — perhaps attesting to the eurybathic nature of the Pseudoaulophacidae during Late Cretaceous times. The sturdy construction of the pseudoaulophacid test lends to its preservation in strata where more fragile forms have been destroyed by sedimentary compaction and diagenesis. Although the Pseudoaulophacidae probably evolved somewhat less rapidly than many other groups of Mesozoic Radiolaria (*e.g.*, the Neosciadiocapsidae Pessagno), they are still sufficiently short ranging to be useful in Upper Cretaceous biostratigraphy. This, coupled with their abundance and cosmopolitan nature, makes them an important group in developing a system of radiolarian zonation for the California Upper Cretaceous.

This report represents the first monographic study of the Pseudoaulophacidae and the sixth in a series of reports dealing with the Upper Cretaceous Radiolaria of the Great Valley Sequence.

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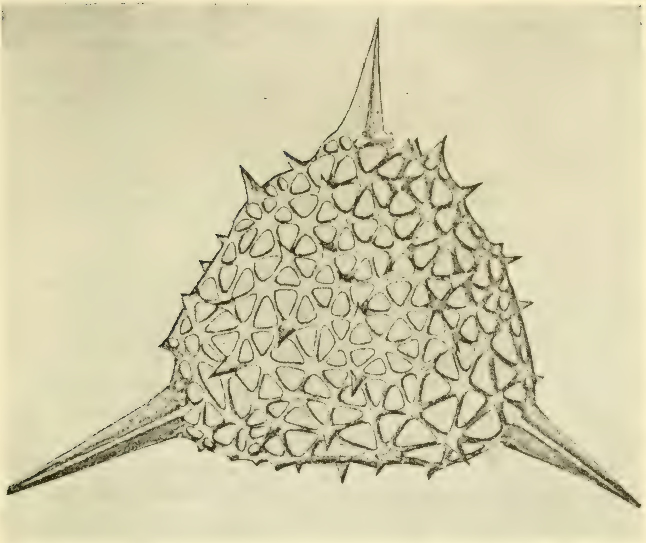
Numerous megafossils were kindly identified for the writer by David L. Jones, Paleontology and Stratigraphy Branch, U.S. Geological Survey, Menlo Park, California.

PREVIOUS INVESTIGATIONS

The first spumellariinid referable to the Pseudoaulophacidae Riedel was described by Bütschli (1882, pl. 26, figs. 1a, 1b) from an unknown locality in Barbados. Bütschli's two illustrations of ?*Spongotrochus ehrenbergi* Bütschli show a form with a subtriangular test, triangular pore frames, and concentrically layered meshwork. Although there is little doubt that ?*S. ehrenbergi* should be included in the Pseudoaulophacidae and probably in *Alievium*, n. gen., Bütschli never stated from which formation in Barbados his samples bearing ?*S. ehrenbergi* were derived. Riedel (1967, p. 295) suggested that Bütschli's specimens of ?*S. ehrenbergi* came from the upper Eocene portion of the Oceanics Formation. However, a number of samples collected by the writer from the upper Eocene Mt. Hillaby Member of the Oceanics Formation have failed to produce any specimens of ?*S. ehrenbergi* or for that matter any other pseudoaulophacid species. It is likely that Bütschli's specimen(s) was extremely rare and possibly reworked from the underlying Joes River Formation. It is also possible that his specimen represents a contaminant from older samples in his possession.

In 1914, Squinabol (p. 271, pl. 20, fig. 4) described and figured "*Theodiscus*" *superbus* Squinabol from the "Middle Cretaceous" of Italy. Squinabol's single illustration of "*T.*" *superbus* accurately depicts the meshwork characteristic of all pseudoaulophacids and shows the massive, uniform equilateral triangular pore frames characteristic of *Alievium*, n. gen. (see Text-fig. 1).

In 1928, White (pp. 305, 306, pl. 41, figs. 9-11) described *Baculogypsina*(?) *gallowayi* and *Baculogypsina*(?) *lenticulata* from the San Felipe Formation of the Tampico Embayment Region of Mexico. At the time, White believed these species to be Foramini-



Text-figure 1: *Theodiscus superbus* Squinabol.

ferida. However, he accurately figured their triangular meshwork and noted that both species possessed siliceous tests.

In 1963 Pessagno (pp. 197-214) placed White's species in *Pseudoaulophacus* Pessagno and described two new species: *Pseudoaulophacus floresensis* Pessagno and *Pseudoaulophacus pargueraensis* Pessagno from the early Campanian portions of the Cariblanco Formation and the Parguera Limestone of Puerto Rico.

DISCUSSION

The oldest definite pseudoaulophacids occur in the late Aptian strata of the Blake-Bahama Basin (JOIDES Leg 1, Site 5A, Core 3, Section 1, core catcher) (see *Alievium antiguum*, n. sp.: *Range and Occurrence*). Possible Pseudoaulophacidae, resembling poorly preserved specimens of *Alievium*, n. gen., occur in Leg 1 samples at

Site 4 (Core 5, Section 1, core catcher). According to Bukry and Bramlette (*in* Ewing, *et al.*, 1969, p. 369) the nannofossils indicate that strata at this horizon are Late Jurassic (Tithonian) to Early Cretaceous (Valinginian) in age. At Site 5A (Core 7, Section 1 (top)) no pseudoaulophacids were observed in a rich, moderately well-preserved radiolarian assemblage associated with definite Late Jurassic (Tithonian) nannofossils (*ibid.*, pp. 236, 375).

The data at hand indicate that the Pseudoaulophacidae made their first appearance during Early Cretaceous (Aptian) times. At this time, they were relatively rare and undiversified. In the Late Cretaceous the Pseudoaulophacidae suddenly became more diversified and abundant during Turonian times. Abundance and diversity both reached their peak during the early Campanian. During the latest Campanian (equivalent to middle of *G. calcarata* Zonule of Pessagno 1967, 1969a), the Pseudoaulophacidae showed a rapid decline in both diversity and abundance at a time when the total radiolarian assemblage was undergoing rapid change. The only Cretaceous pseudoaulophacid that survived this period of latest Campanian extinctions is *Alievium murphyi*, n. sp. This species was figured by Foreman (1968, pl. 2, fig. 2) as *Pseudoaulophacus* sp. from the Moreno Formation (Maestrichtian) of Fresno County, California. As already inferred (see Previous Investigations) the extension of the range of the Pseudoaulophacidae to the Eocene on the basis of the scant data surrounding ?*S. ehrenbergi* Bütschli is tenuous.

At the generic level *Alievium*, n. gen., appears to have been the first pseudoaulophacid to evolve. *Alievium* gave rise to *Pseudoaulophacus* Pessagno by middle Turonian times through the acquisition of centrally located tholi on opposing sides of the test. *Pseudoaulophacus s.s.* became extinct in the latest Campanian whereas *Alievium* continued into the Maestrichtian (cf. Text-fig. 2).

In a thick flysch succession such as that of the Great Valley Sequence of the California Coast Ranges it is extremely difficult to establish a bioseries with Radiolaria or for that matter with any other group of invertebrate fossils. The bed to bed control needed for detailed phylogenetic studies is usually lacking. It has been particularly difficult to focus on the rapid evolutionary changes that undoubtedly took place in family groups such as the Neosciadiocapsidae Pessagno, the Rotaformidae Pessagno, and the Hagiastridae Riedel (see Pessagno, 1969a, 1970, 1971a). Yet, with the Pseudoaulophacidae — particularly in the case of the *Alievium superbus* group — evolutionary changes are so slow that the lack of bed to bed sample control doesn't seem to hamper bioseries documentation.

Morphologic changes in the *Alievium superbus* group from early Turonian to late Campanian times are evidenced primarily in the structure of the three primary spines. *Alievium superbus* (Squinabol) *s.s.* makes its first appearance in early Turonian strata assignable to the *Inoceramus labiatus* Zone of the molluscan workers and to the lower part of the *Marginotruncana sigali* Subzone of Pessagno (1967, 1969a). *A. superbus s.s.* (early Turonian to late Turonian/early Coniacian) is characterized by having markedly triradiate primary spines; that is, spines that possess three sharp ridges separated by three broad grooves (Text-fig. 1). By late Turonian or early Coniacian *A. superbus s.s.* gave rise to *A. praegallowayi*, n. sp., a form that possesses primary spines that are triradiate in axial section proximally and become circular in axial section (about midway) distally. With *A. praegallowayi* the grooves tend to become narrower and to be separated by more rounded ridges. By very latest Coniacian times or earliest Santonian times *A. praegallowayi* gave rise to *A. gallowayi* through the total loss of triradiate spines and by the acquisition of spines that are completely circular in axial section. Thus, a progressive change in the structure of the primary spines occurs from early Turonian to late Coniacian or early Santonian times; a change that largely involves the gradual closure of the grooves and the loss of the ridges. Other changes observable in the *A. superbus* group tend to be somewhat more subtle. There seems to be a tendency for test shape to be globular, rounded, and more convex laterally with both *A. superbus s.s.* and *A. praegallowayi* (Pl. 25, figs. 1-3). However, the test of *A. gallowayi* tends to be more triangular in outline and to be more flattened laterally. As an immediate result of lateral flattening, *A. gallowayi* possesses linearly arranged nodes and triangular frames (Pl. 25, figs. 4-6).

The phylogeny of species of *Pseudoaulophacus s.s.* is much more difficult to decipher. It is felt that *Pseudoaulophacus s.s.* is linked to *Alievium* through *Pseudoaulophacus putahensis*, n. sp.

(Pl. 27, figs. 1-2). *P. putahensis,* n. sp., possesses a subtriangular test, weakly developed tholi, and three triraidate primary spines. It is likely that *P. putahensis* evolved from an *A. superbus s.s.* ancestor. Other probable phylogenetic relationships are outlined in Text-figure 3 and under the species descriptions.

TERMINOLOGY

The following new terms are introduced for the Pseudoaulophacidae:

Tholus, —i.— Domelike structure(s) occurring centrally on opposing sides of the pseudoaulophacid test. Meshwork of tholi comprised of considerably larger equilateral triangular pore frames than those of remainder of test. See Plate 27, figures 3, 4, 6.

tholus, —i (Latin, M.) = a dome, cupola.

Primary spines. — Large, radial spines situated equatorially and sometimes extending to center of test in the equatorial plane. See Plate 25, figure 3.

Secondary spines. — Small spines not necessarily radial or situated in equatorial plane. See Plate 25, figure 3.

Keel. — An imperforate rim or shelflike structure situated in the equatorial plane. See Plate 27, figures 5-6; Plate 29, figures 3-4.

LOCALITY DESCRIPTIONS

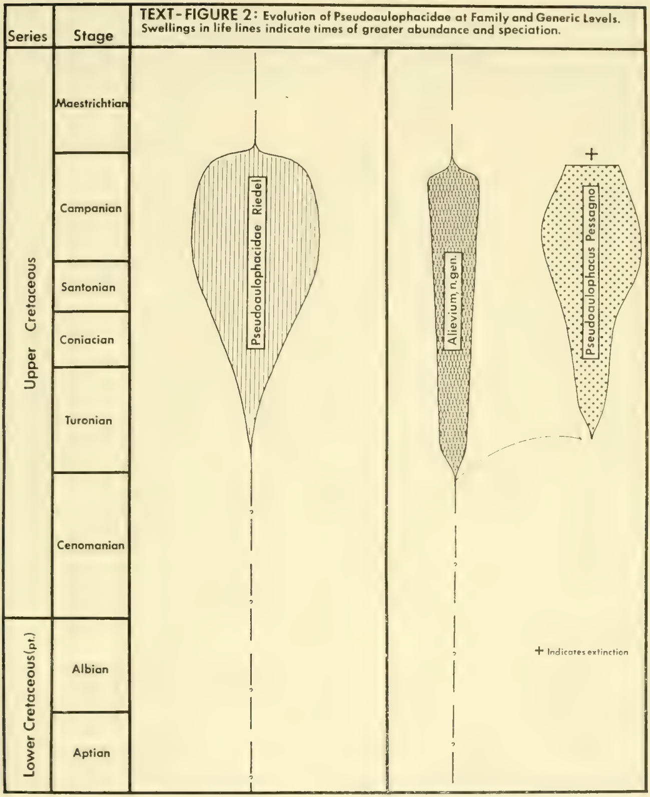
The Pseudoaulophacidae occur at numerous localities in the Great Valley Sequence. In this report only a select few of these localities are recorded in Text-figure 5.

Locality descriptions are given below for all type localities and for all localities not described by the writer in previous papers on the Upper Cretaceous Radiolaria of the Great Valley Sequence (Pessagno, 1969a, 1971a, 1971b).

NSF 32-B. See Pessagno (1971a).

NSF 55-B. See Pessagno (1969b).

NSF 61. Forbes Formation (lower portion of so-called "Middle Forbes"); 525 feet above contact between Forbes and underlying Guinda Formation. Gray siliceous mudstones containing abundant Radiolaria; early Campanian. Tributary to Petroleum Creek, Yolo County, California. USGS Rumsey Quad. (7.5′); T12N; R3W;



TEXT-FIGURE 2: Evolution of Pseudoaulophacidae at Family and Generic Levels. Swellings in life lines indicate times of greater abundance and speciation.

Section 10; 1.5 miles N35°W of VABM Guinda 1798. See planktonic Foraminifera recorded at *NSF 55-B*.

NSF 134-B. Lower part of the Forbes Formation ("Dobbins Shale" Member); 60 feet above contact between Forbes Formation and the underlying Guinda Formation. Gray calcareous mudstone with abundant limestone nodules; sample from limestone nodules; early Campanian. Tributary to Petroleum Creek, Yolo County, California.

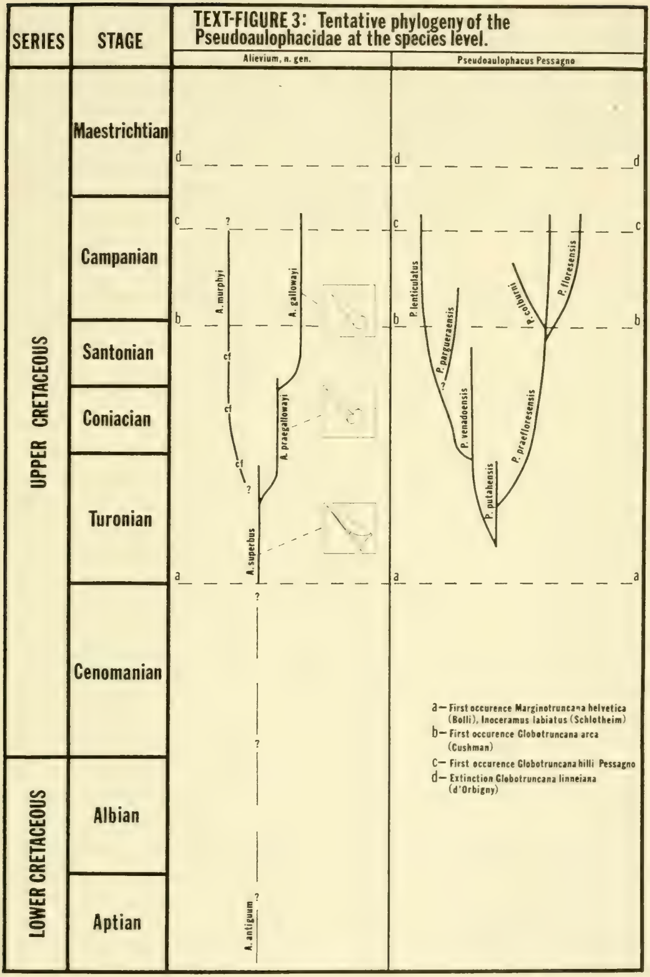
USGS Rumsey Quad. (7.5′); T12N; R3W; Section 15; 1.1 miles N36°W of VABM Guinda 1798. Planktonic Foraminifera recovered from mudstones (*NSF 134-A*) at this locality include *Globotruncana arca* (Cushman), *Globotruncana rosetta* (Carsey) *s. l., Globotruncana lapparenti* (Brotzen).

NSF 191. Lower portion of Forbes Formation ("Dobbins Shale" Member of Emerson and Roberts, 1962, "Geologic Map of Putah Creek", Map 3, Calif. Div. of Mines Bull. 181). Gray calcareous mudstones with limestone nodules; 140 feet above the contact with the underlying Guinda Formation. Sample from calcareous mudstone containing abundant Radiolaria and benthonic Foraminifera; early Campanian. USGS Monticello Dam Quad. (7.5′); R2W; T8N: Section 22 (western part); one mile north of Putah Creek and Yolo-Solano County line.

NSF 202, 203, 207. Funks Formation (cf. Emerson and Roberts, 1962, *ibid.*) Gray calcareous to siliceous mudstones and siltstones with minor interbedded thin sandstones. Samples from gray mudstones containing abundant Radiolaria, rare planktonic Foraminifera, and common benthonic Foraminifera; late Coniacian to early Santonian. *NSF 202*: Basal portion of Funks. *NSF 203*: 64 feet above contact between Funks and underlying Sites Formation. *NSF 207*: Upper portion of Funks; 10 feet below contact between Funks Formation and overlying Guinda Formation. Bray Canyon. USGS Monticello Dam Quad. (7.5′); R2W; T8N; Section 21 (eastern edge).

Douglas (1969, p. 162) recorded *Hastigerinoides alexanderi* (Cushman) from the middle portion of the Funks at Bray Canyon. In Texas extensive sampling indicates that this species is restricted to the early Santonian *Marginotruncana concavata* Subzone. Other planktonic Foraminifera occurring in the lower and middle portions of the Funks at Bray Canyon include *Marginotruncana pseudolinneiana* Pessagno, M. *canaliculata* (Reuss), *M. angusticarinata* (Gandolfi), and *M. marginata* (Reuss). Jones (1966, pp. 199-203) recorded *Protexanites thompsoni* Jones from the Funks at Bray Canyon at a horizon situated several hundred feet above the base of the Funks. Jones (*ibid.*, p. 202) stated that *P. thompsoni* is indicative of either the late Coniacian or early Santonian.

NSF 210. Upper part of the Forbes Formation ("Pleasant Valley



TEXT-FIGURE 3: Tentative phylogeny of the Pseudoaulophacidae at the species level.

SERIES
STAGE
Alievium, n. gen.
Pseudoaulophacus Pessagno
UPPER CRETACEOUS
LOWER CRETACEOUS
Maestrichtian
Campanian
Santonian
Coniacian
Turonian
Cenomanian
Albian
Aptian
a
b
c
d
?
cf
A. murphyi
A. gallowayi
A. praegallowayi
A. superbus
A. antiguum
P. lenticulatus
P. pargueraensis
P. venadoensis
P. putahensis
P. praefloresensis
P. colburni
P. floresensis
a — First occurence Marginotruncana helvetica (Bolli), Inoceramus labiatus (Schlotheim)
b — First occurence Globotruncana arca (Cushman)
c — First occurence Globotruncana hilli Pessagno
d — Extinction Globotruncana linneiana (d'Orbigny)

Shale" of Emerson and Roberts, 1962, *loc. cit.*). Light gray siliceous mudstones containing abundant Radiolaria; late Campanian. USGS Monticello Dam Quad. (7.5′); R2W; T8N; Sect. 23 (southern edge); 0.45 miles north of Yolo-Solano County line. *Globotruncana arca* (Cushman) (Campanian-Maestrichtian) was figured from this horizon by Takayanagi (1965, pl. 23, figs. 1a-2c). Takayanagi (*ibid.*, pl. 22, figs. 6a-c) figured *Globotruncana churchi* Martin as *G. arca*. As noted by Douglas (1969, text-figure 4), *G. churchi* is restricted to the late Campanian in California.

NSF 214-C. See Pessagno, 1971b.

NSF 222. See Pessagno 1971b.

NSF 227, 231. Selected localities from a measured section of the Funks Formation at Rumsey Canyon, Yolo County, California. Gray calcareous to siliceous mudstones. *NSF 227*: 15 feet above contact between Sites Formation and Funks Formation. *NSF 231*: 64 feet above base of Funks Formation. USGS Glascock Mountain Quad. (7.5′); R4W; T12N; eastern margin of Section 14 and western part of Section 13.

NSF 291-B. Yolo Formation [upper part of type Yolo at north bank of Cache Creek, Yolo County]. Limestone nodules interbedded with dark gray calcareous mudstones and siltstones; 140 feet below the contact of the Yolo Formation with the overlying Sites Formation. USGS Glascock Mountain Quad. (7.5′); T12N; R4W; Sect. 2; 0.15 miles downstream from northwest end of Rt. 16 bridge over Cache Creek. An ammonite collected from this locality by the writer and identified by D. L. Jones (USGS, Menlo Park, Calif.) as "*Kossmaticeras* aff. K. *japonicum*" indicates (*fide* Jones) that *NSF 291-B* is Coniacian in age.

NSF 316-B. Middle part of the Sites Formation at Cache Creek, Yolo County, California. Gray calcareous shales and siltstones with small limestone nodules. Sample from north side of creek, six feet away from large fault zone. USGS Glascock Mountain Quad. (7.5′); T12N; R4W; Sect. 2; 0.4 miles downstream from the Rt. 16 bridge over Cache Creek. About 1293 feet above the contact between the Sites Formation and the underlying Yolo Formation.

NSF 319. See Pessagno 1969b.

NSF 327. See Pessagno 1969b.

NSF 432. Venado Formation. Small limestone nodules occurring in dark fissile shales interbedded with massive sandstones. Route 128 near Monticello Dam about 70 feet east of the Solano-Napa County line. *NSF 432* is in close proximity to locality *UC B-2040* (cf. Matsumoto, 1960, pp. 37-38) where Turonian ammonites have been recorded (*i.e., Romaniceras* sp. aff. *R. inerme* (De Grossouver). Douglas (personal communication and 1969, p. 169) noted "*Praeglobotruncana*" *helvetica* (Bolli) from the lower portion of the Venado Formation at Putah Creek.

NSF 450-451. See Pessagno 1969b.

NSF 480-481. See Pessagno 1971b.

NSF 482. See Pessagno 1969b.

NSF 483. Yolo Formation. Horizon of small limestone nodules in a sequence of dark gray mudstones, siltstones, and sandstones. Monticello Dam Quad. (7.5′); T8N; R2W; Sect. 28; Route 128 (Solano County) at southeast side of horseshoe bend in road; Cold Canyon; 0.23 miles southwest of Route 128 highway bridge over Putah Creek.

NSF 487. Funks Formation. Gray calcareous mudstones with common limestone nodules. Rt. 161, 800 feet from BM 550; 0.3 miles south of Camp Haswell (BSA). USGS Glascock Mountain Quad. (7.5′): T12N; R4W; eastern edge of section 11 on west side of road. Associated planktonic Foraminifera include *Marginotruncana marginata* (Reuss), *M. renzi* (Gandolfi) and *M. pseudolinneiana* Pessagno. Radiolarian assemblage appears to be correlative with Santonian.

NSF 526. Funks Formation. Limestone nodules associated with gray calcareous to siliceous mudstones. USGS Wilbur Springs Quad. (15′): T15N; R4W; Sect. 33 (center); Salt Canyon north of Rt. 20; 0.10 miles south of power line. Colusa County, California.

NSF 531. Lower part of the Forbes Formation ("Dobbins Shale" Member). Gray calcareous mudstones with limestone nodules; sample from limestone nodule. Exposure in bluff on west side of Salt Creek, Colusa County, California. USGS Rumsey Quad. (7.5′); T13N; R3W; Sect. 7. Adjacent to Dobbins Ranch; 0.2 miles S60°W from BM 584. Campanian ammonites, chiefly *Patagoniosites arbucklensis* (Anderson) were collected at this locality by the writer and identified by D. L. Jones (USGS, Menlo Park). Matsumoto (1960, p. 83) reported that this species together with

Gaudryceras sp. cf. *G. striatum* (Jimbo) and *Inoceramus schmidti* Michael from the same locality.

NSF 568-B, 571, 572-B, 573. "Marsh Creek Formation". Samples from limestone nodules interbedded with dark gray siliceous to calcareous mudstones. Antioch South Quad. (7.5′); T1N; R2E; Sect. 32, south bank of Marsh Creek, Deer Valley Road Crossing of Marsh Creek, Contra Costa County, California. *NSF 568-B* by bridge; *NSF 571, NSF 572-B,* and *NSF 573,* 0.10, 0.15, and 0.20 miles downstream from bridge respectively. Associated planktonic Foraminifera present at this horizon include *Globotruncana churchi* Martin, *Globotruncana arca* (Cushman) and *Sigalia ornatissima* (Cushman and Church). Biostratigraphic data from the Putah Creek, Pleasant Valley, and Tesla areas indicate that the radiolarian assemblage present at *NSF 568-B, NSF 571,* and *NSF 572* is assignable to the upper part of the *G. calcarata* Zonule of Pessagno (1967, 1969).

NSF 591. See Pessagno 1971a.

NSF 625. Budden Canyon Formation (Gas Point Member). Dark gray calcareous mudstones with limestone nodules. Dry Creek, Tehama County, California. USGS Ono Quad. (15′): R6W, T28N; Sect. 7 (southern margin). An ammonite collected by the writer from adjacent *NSF 624* was identified by D. L. Jones (USGS, Menlo Park) as *Collignoniceras woolgari* (Mantel). According to Jones this form is indicative of the late Turonian. Marianos and Zingula (1966, p. 340, text-figure 3) record "*Globotruncana*" *helvetica* Bolli from nearby localities (7-10).

NSF 632. Budden Creek Formation (Gas Point Member). Slightly calcareous greenish gray mudstones with abundant Radiolaria; inlier in Tehama Formation along Dry Creek, Tehama County, California. USGS Ono Quad. (15′). R6W; T28N; Sect. 18; 0.4 miles east of BM 707. Data presented by Marianos and Zingula (*ibid.*) appear to indicate that this horizon occurs above the last occurrence of *Marginotruncana helvetica* (Bolli). The radiolarian assemblage correlates well with those to the south that have been dated as Coniacian on the basis of megafossils.

NSF 644. See Pessagno 1969b.

NSF 647. Venado Formation. Dark gray calcareous mudstones interbedded with massive sandstones. Sample from limestone nodules.

Outcrop 0.35 miles north of Funks Creek; 0.3 miles northeast of east end of "Golden Gate". Planktonic Foraminifera from calcareous mudstones 20 feet below this horizon include *Marginotruncana helvetica* (Bolli), *M. sigali* (Reichel), *M. marianosi* (Douglas), and *M. canaliculata* (Reuss). This assemblage is correlative with lower Turonian *M. sigali* Subzone of Pessagno (1967, 1969a).

NSF 705-B. "Marsh Creek Formation". 0.5 miles north of Contra Costa-Alameda County line on Vasco Road (Kellog Creek section). USGS Bryon Hot Spring Quad. (7.5′).

Puerto Rico

PR V. Parguera Limestone. USGS Parguera Quad. (7.5′); 87, 650E; 16, 510N; Puerto Rico Coordinate system; early Campanian.

NOTATIONS ON THE INTEGRATION OF RADIOLARIAN RANGE ZONES WITH PLANKTONIC FORAMINIFERAL ZONATION (SEE TEXT-FIGURE 4)

(1) *Rotalipora evoluta datum (first appearance).*—Corresponds to base of *R. evoluta* Subzone (Pessagno, 1967, 1969a) which in turn corresponds approximately to the lower part of the *Mantelliceras mantelli* Zone of ammonite workers; earliest Cenomanian.

(2) *First appearance of double-keeled Globigerinacea.*—Corresponds to base of *M. sigali* Subzone (Pessagno, *ibid.*) and to base of *Actinocama plenus* Subzone in the Anglo-Parisian Basin (Jefferies, 1961, p. 618, pl. 79, figs. 30 a-c). Jefferies considered the *A. plenus* Subzone early Turonian. (See discussion of Cenomanian-Turonian boundary problem in Pessagno, 1969a).

(3) *Globotruncana arca datum (first appearance).*—Corresponds to base of *G. fornicata-stuartiformis* Assemblage Zone (Pessagno, *ibid.*); basal Campanian. See Pessagno (1969a) for integration of megafossil and planktonic foraminiferal data and for discussion of Santonian-Campanian boundary problem.

(4) *Globotruncana hilli datum (first appearance).*—Corresponds to base of *G. calcarata* Zonule of Pessagno (*ibid.*) and to base of *Bostrychoceras polypolocum* Zone of ammonite workers latest Campanian. See Pessagno (1969a) for a more detailed discussion.

(5) *Globotruncana linneiana (extinction).*—Corresponds to the top of the *G. fornicata-stuartiformis* Assemblage Zone of Pessagno

(*ibid.*); latest early Maestrichtian. No precise data available for the integration of planktonic foraminiferal and megafossil zonation.

SYSTEMATIC PALEONTOLOGY

Phylum PROTOZOA
Subphylum SARCODINA
Class ACTINOPODEA
Subclass RADIOLARIA
Order POLYCYSTIDA
Suborder SPUMELLARIINA

Superfamily **SPONGODISCACEA** Haeckel

Remarks. — Pessagno (1971a, p. 16) defined the Spongodiscacea to include Spumellariina with spongy tests of variable shape lacking sieve plates, lattice shells, or chambered rays. The pore frames comprising the spongy meshwork may be arranged with or without symmetry.

Subsuperfamily **PSEUDOAULOPHACILAE** Riedel

Remarks. — The Pseudoaulophacilae as defined by Pessagno (1971a, p. 19) include only those Spongodiscacea having spongy meshwork arranged symmetrically in spirals, concentric rings, and parallel layers. The overall shape of the test varies with the family or subfamily.

Family **PSEUDOAULOPHACIDAE** Riedel, emended

Type genus. — *Pseudoaulophacus* Pessagno.

Emended definition. — Test disc-shaped; lenticular in peripheral view; triangular to circular in lateral views with or without tholi. Three to 12 primary spines present equatorially; when not reabsorbed, extending to center of test. Meshwork consisting entirely of equilateral triangular frames comprised of bars connected to massive nodes at vertices; triangular frames combining to form hexagonal areas (particularly noticeable in area of tholi). Meshwork arranged in markedly concentric layers (Pl. 26, fig. 6; Pl. 31, figs. 1-3); vertical pillars extending between nodes of triangular frames to support layers.

Remarks. — Riedel (1967, p. 295) defined the Pseudoaulophacidae to include "Spongy, discoidal spumellarians with all or part of the surface covered by meshwork of equilateral triangular frames." The amended definition proposed herein restricts the Pseudoaulophacidae to forms having disc-shaped tests comprised entirely of equilateral triangular meshwork arranged in concentric layers. Forms such as *Halesium* Pessagno (1971a, p. 23) that have meshwork partly comprised of equilateral triangular frames consisting of bars and tabulae and not arranged in concentric layers are excluded from the Pseudoaulophacidae.

Criteria for the classification of the Pseudoaulophacidae are presented in Table 1.

Range. — Late Aptian to Maestrichtian. ?Eocene.

Occurrence. — World-wide in Tethyan Faunal Province and Boreal Faunal Province. Presence not documented in Austral Faunal Province.

Genus **ALIEVIUM** Pessagno, new genus

Type species. — *Theodiscus superbus* Squinabol.

Description. — Test triangular to subtriangular lacking tholi. Three primary spines occurring in corners of triangular or subtriangular test; variable number of secondary spines occurring peripherally or on sides of test; sometimes extending from nodes. Meshwork generally quite coarse, massive, uniform size throughout.

TABLE 1

CRITERIA FOR CLASSIFICATION

FAMILY LEVEL
Presence of triangular meshwork arranged in concentric layers.

GENERIC LEVEL
Overall symmetry of test (*e.g.*, disc-shaped, lenticular)
Presence or absence of tholi.
Presence of pore frames of uniform size or two distinctly different sizes.
Presence of radially arranged primary spines.

SPECIFIC LEVEL
Structure of primary spines.
Number of primary spines.
Presence of keel.
Shape of test (*e.g.*, circular versus triangular).
Size and shape of tholi.
Size of pore frames.
Construction of pore frames.

Remarks. — *Alievium,* n. gen., is compared with *Pseudoaulophacus* Pessagno under the latter genus.

Alievium is named after K. S. Aliev in honor of his contribution to the study of the Cretaceous Radiolaria of the USSR.

Range. — Late Aptian to Maestrichtian. ?Eocene. See Text-figure 2.

Occurrence. Boreal Faunal Province and Tethys Faunal Provinces; world-wide.

Alievium antiquum Pessagno, n. sp. Pl. 24, figs. 1-4

Description. — Test subtriangular with three triradiate primary spines at corners; spines with narrow grooves and rounded ridges. Triangular frames of meshwork with curved (U-shaped), thick bars connecting prominent nodes.

Remarks. — *Alievium antiquum,* n. sp., differs from *A. superbus s.s.* (Squinabol) and *A. murphyi,* n. sp., in the detailed structure of its triangular meshwork. The bars comprising the frames of *A. antiquum* are thick and curved (U-shaped) whereas those of *A. superbus s.s.* and *A. murphyi* are relatively thin and straight.

antiquus-a-um (Latin) = old, ancient, primitive

Measurements. —

	Maximum Width of Test microns
Holotype (USNM 165595)	170
Paratype (USNM 165596)	210
Paratype (USNM 165601)	220
Paratype (USNM 165601)	190
Paratype (USNM 165601)	130
Paratype (Pessagno Coll.)	140
Paratype (Pessagno Coll.)	190
Paratype (Pessagno Coll.)	145

Type Locality. — JOIDES Leg 1, Site 5A, Section 1, Core Catcher. Blake-Bahama Basin.

Deposition of types. — Holotype = USNM 165595. Paratypes = USNM 165596, 165601 and Pessagno Collection, University of Texas at Dallas.

Range and Occurrence. — To date this species is only known from its type locality in strata of late Aptian age.

Ewing, *et al.* (1969, p. 236) originally assigned strata at the type locality to the early Albian on the basis of a rather sparse planktonic foraminiferal assemblage which included *Hedbergella modesta* Bolli and *Schackoina pustulans* Bolli. Investigations by Sigal (1966, pp. 185-217, fig. 1), Moullade (1965, pp. 208, 212), and others on the type Aptian and Albian indicate that *S. pustulans* (= *S. cabri* Sigal) is restricted to the late Aptian.

Alievium gallowayi (White) Pl. 25, figs. 4-6; Pl. 26, fig. 5; Pl. 31, figs. 2, 3

1928. *Baculogypsina*(?) *gallowayi* White, Jour. Paleont., vol. 2, No. 4, p. 305, pl. 41, figs. 9-10.

1962. *Aulophacus gallowayi* (White), Pessagno, Micropaleontology, vol. 8, No. 3, pp. 364, pl. 3, figs. 5-6.

1963. *Pseudoaulophacus gallowayi* (White), Pessagno, Micropaleontology, vol. 9, No. 2, p. 202, pl. 2, figs. 1, 3, 6; pl. 4, figs. 2, 5, 7; pl. 7, figs. 2, 4.

Description. — Test subtriangular with coarse meshwork. Three massive primary spines situated at corners of test; spines circular in axial section, rarely triradiate at extreme proximal end. Test relatively flattened laterally with linearly arranged nodes and pore frames.

Remarks. — *A. gallowayi* White differs from *A. superbus s.s.* and *A. praegallowayi*, n. sp., by possessing primary spines that are circular in axial section and by having a somewhat less inflated test. Because the sides of the test are less inflated, the nodes situated at the vertices of triangular frames tend to be aligned in straight rows. With *A. superbus* (Squinabol) *s.s.* and *A. praegallowayi*, n. sp., the nodes are aligned in curved rows or show no pronounced alignment.

White originally described this species from the upper part of the San Felipe Formation in the Tampico Embayment area of México. The upper portion of the San Felipe Formation in this area is early Campanian in age (see Pessagno, 1969a, p. 37). Examination of White's type material, as well as numerous specimens from the type horizon, indicates that this form always has three massive spines that are circular in axial section.

	Maximum Width of Test microns	Maximum Length of Spines microns
*NSF 482.**	113	52.5
*NSF 134.**	125	70.0
	130	73.0
NSF 32-B	145.5	120.0
	172.5	112.0
	144	60
	150	—
	150	—
	120	85.0
	160	—
	135	—
*PR V** (Puerto Rico)	220	—
	220	—
	200	—

*See Locality Descriptions.

Range. — Early Santonian to late Campanian. Text-figure 4.

Occurrence. — Early Campanian portion of the San Felipe Formation and Méndez Shale of Mexico; early Campanian portion of the Parguera Limestone and Cariblanco Formation of Puerto Rico; early Campanian portion of the Parapedhi Formation of Cyprus. JOIDES Leg I, Site 4, Core 2, Sec. 1: 10 cms (Coniacian to early Santonian). Occurrence in Great Valley Sequence of California Coast Ranges is indicated in Text-figure 5.

Alievium murphyi Pessagno, n. sp. Pl. 26, figs. 1-4

1968. *Pseudoaulophacus* sp. Foreman, Special Papers in Paleont., No. 3, p. 15 (part), pl. 2, figs. 7a,b.

Description. — Test subtriangular, rounded peripherally, flattended laterally; moderately raised in center with three short spines situated in corners; spines circular to elliptical in axial section.

Remarks. — *Alievium murphyi,* n. sp., differs from members of the *A. superbus* group by having shorter spines, by being considerably more compressed and flattened laterally, and by being moderately raised in the center. It is probable that *A. murphyi* arose from *A. praegallowayi* via lateral flattening and the acquisition of shorter spines. A trend toward lateral flattening has already been established in *A. superbus* group.

Measurements. —

	Maximum Width of Test microns	Maximum Length of Spines microns
Holotype (USNM 165587)	200	60
Paratype (USNM 165588)	170	45
Paratype (Pessagno Coll.)	240	—
Paratype (Pessagno Coll.)	175	—
Paratype (Pessagno Coll.)	150	70
Paratype (Pessagno Coll.)	170	—
NSF 222*; Specimen 1	190	—
NSF 222; Specimen 2	180	—
NSF 222; Specimen 3	190	—
NSF 222; Specimen 4	180	—
NSF 222; Specimen 5	200	—
PR V Puerto Rico)*	200	—
PR V (Puerto Rico)	230	—

*See Locality Descriptions

Type localities. — Holotype and some paratypes from *NSF 568-B*. Remaining paratypes from *NSF 572*. See Locality Descriptions.

Deposition of types. — Holotype = USNM 165587. Paratypes = USNM 165588 — 165589 and Pessagno Collection, University of Texas at Dallas.

Range. — Santonian to Maestrichtian. Text-figure 4.

Occurrence. — Early Campanian portion of Parguera Limestone of Puerto Rico. See Text-figure 5 and Locality descriptions.

Alievium praegallowayi Pessagno, n. sp. Pl. 25, figs. 2-3

Description. — Test subtriangular, rather inflated with three spines situated in corners. Proximal half of spines triradiate in axial section; distal half of spines circular in axial section.

Remarks. — *A. praegallowayi,* n. sp., differs from *A. superbus* Squinabol *s.s.* and *A. gallowayi* (White) by having spines which are triradiate in axial section proximally and circular in axial section distally. *A. praegallowayi,* n. sp., arose from *A. superbus s.s.* during late Turonian times through the partial loss of triradiate spines. *A. praegallowayi,* n. sp., gave rise to *A. gallowayi* (White) through the total loss of triradiate spines and through lateral flattening.

Measurements. —

	Maximum Width of Test microns	Maximum Length of Spines microns
Holotype (USNM 165584)	150	130
Paratype (USNM 165585)	150	150
Paratype (USNM 165585)	180	90.0
Paratype (USNM 165586)	130	100.0+
Paratype (USNM 165586)	170	90.0+
Paratype (USNM 165586)	130	—
Paratype (Pessagno Coll.)	150	90.0+
Paratype (Pessagno Coll.)	120	80.0+

Type locality. — *NSF 291-B.* See Locality Descriptions.

Deposition of types. — Holotype = USNM 165584. Paratypes = USNM 165585 — 165586 and Pessagno Collection, University of Texas at Dallas.

Range. — Late Turonian/early Coniacian to early Santonian. Text-figure 4.

Occurrence. — See Text-figure 5 and Locality Descriptions.

Alievium superbus (Squinabol) *s.s.* Text-fig. 1; Pl. 24, figs. 5-6; Pl. 25, fig. 1

1914. *Theodiscus superbus* Squinabol, Mem. Ist. R. Univ. Padova, vol. 2, p. 271, pl. 20, fig. 4.

Description. — Test subtriangular in shape, moderately convex laterally with three massive triradiate spines situated in three corners (Text-fig. 1). Meshwork consisting of relatively large equilateral triangular pore frames.

Remarks. — *A. superbus* has been compared with *A. gallowayi* White and with *A. praegallowayi*, n. sp., under the latter species.

Squinabol (1914, p. 271) originally described this species from the "Middle Cretaceous" of Italy. His illustration (*ibid.*, pl. 20, fig. 4) is quite lucid for its day.

Measurements. —

	Maximum Width of Test microns	Maximum Length of Spines microns
NSF 697*	223	112.0
NSF 697	163	77.0
NSF 697	180	136.0
NSF 483*	148	89.5
NSF 705*	150	40.0
NSF 705*	150	50.0

	Maximum Width of Test microns	Maximum Length of Spines microns
NSF 705*	180	—
NSF 705*	185	—
NSF 705*	130	60.0
NSF 705*	130	60.0
NSF 705*	150	60.0

*See Locality Descriptions

Range. — Early Turonian to late Turonian/early Coniacian. See Text-figure 4.

Occurrence. — Upper Cretaceous of Italy. Occurrence in Great Valley Sequence shown in Text-figure 5.

Genus **PSEUDOAULOPHACUS** Pessagno

Type species. — *Pseudoaulophacus floresensis* Pessagno.

Emended definition. — Test elliptical, circular, or subtriangular in outline with centrally placed tholi. Meshwork of tholi comprised of larger, more massive pore frames than those of remainder of test.

Remarks. — *Pseudoaulophacus* differs from *Alievium*, n. gen., by possessing tholi. Furthermore, whereas the meshwork of *Alievium* possesses pore frames of relatively uniform size, *Pseudoaulophacus* possesses pore frames of two different sizes: large, massive pore frames restricted to the tholi and much smaller pore frames comprising the remainder of the test. *Pseudoaulophacus* appears to have evolved from *Alievium* during middle Turonian times. Transitional forms with poorly developed tholi are common in strata of this age.

Range. — Middle Turonian to late Campanian. See Text-figure 4.

Occurrence. — Upper Cretaceous of Puerto Rico, México, Blake-Bahama Basin (JOIDES Leg 1), California, England, and Cyprus.

Pseudoaulophacus colburni Pessagno, n. sp. Pl. 29, figs. 3-4

Description. — Test subtriangular with meshwork comprised of massive triangular pore frames. Three short, broad, massive primary spines situated at corners of test; spines circular to elliptical in axial section. Periphery with broad imperforate keel which merges with primary spines. Tholi relatively small, comprising about one-third to one-half diameter of test. Test exclusive of tholi relatively flattened laterally.

Remarks. — *P. colburni,* n. sp., differs from *P. praefloresensis,* n. sp., by having more massive meshwork, three short, broad primary spines, and a more strongly developed peripheral keel. The small diameter of the tholi relative to test diameter and the flattened nature of the test laterally suggest that *P. colburni,* n. sp., and *P. praefloresensis,* n. sp., are closely related. It is likely that *P. colburni* evolved from *P. praefloresensis* during early Campanian times.

This species is named for Ivan Colburn in honor of his contributions to the study of the Great Valley Sequence.

Measurements. —

	Maximum Width of Test microns	Maximum Width of Tholi microns	Maximum Length of Spines microns
Holotype (USNM 165597)	160	50	50
Paratype (USNM 165598)	190	80	55
Paratype (USNM 165598)	200	80	—
Paratype (Pessagno Coll.)	180	60	40
Paratype (Pessagno Coll.)	180	60	40
Paratype (Pessagno Coll.)	230	70	60
Paratype (Pessagno Coll.)	210	60	55
Paratype (Pessagno Coll.)	180	60	—
Paratype (Pessagno Coll.)	200	70	—

Type locality. — The holotype and some of the paratypes come from *NSF 134-B.* The remaining paratypes come from *NSF 531.* See Locality Descriptions.

Deposition of types. — Holotype = USNM 165597. Paratypes = USNM 165598 and Pessagno Collection, University of Texas at Dallas.

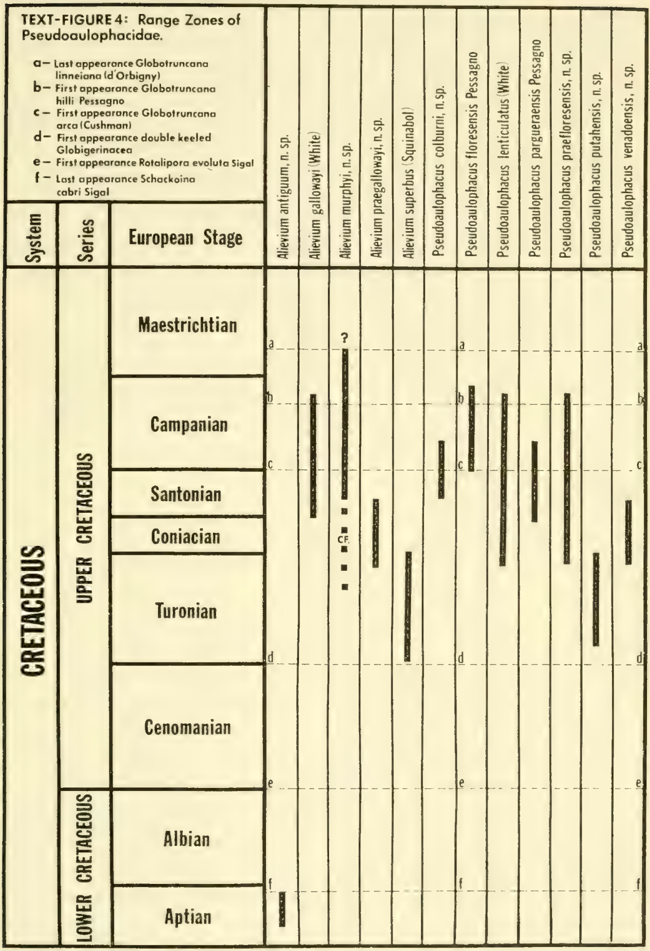
Range. — Santonian to early Campanian. Text-figure 4.

Occurrence. — See Text-Figure 5 and Locality Descriptions.

Pseudoaulophacus floresensis Pessagno Pl. 26, fig. 6; Pl. 28, figs. 4-6; Pl. 29, figs. 1-2; Pl. 31, fig. 1

1963. *Pseudoaulophacus floresensis* Pessagno, Micropaleontology, vol. 9, No. 2, p. 200, pl. 2, figs. 2, 5; pl. 4, fig. 6; pl. 7, figs. 1,5.

Description. — Test subtriangular with three long primary spines at corners; spines circular in axial section. Tholi usually


TEXT-FIGURE 4: Range Zones of Pseudoaulophacidae.

a – Last appearance Globotruncana linneiana (d'Orbigny)
b – First appearance Globotruncana hilli Pessagno
c – First appearance Globotruncana arca (Cushman)
d – First appearance double keeled Globigerinacea
e – First appearance Rotalipora evoluta Sigal
f – Last appearance Schackoina cabri Sigal

comprising somewhat less than half the diameter of test; rounded, relatively low in relief. Test surface exclusive of tholi convex.

Remarks. — Pessagno (1963, p. 200, pl. 5), described and figured three primary spines extending to the interior of the test in the equatorial plane. Although this is the case in a few rare specimens, in most cases the earlier portions of the spines tend to be reabsorbed and the spines are present only on the test periphery.

Comparisons of *P. floresensis* Pessagno with *P. praefloresensis,* n. sp., and *P. venadoensis,* n. sp., are given under the later species. It is probable that *P. floresensis* arose from *P. praefloresensis* through an increase in convexity laterally, a reduction of the imperforate peripheral keel, and an increase in the size of the tholi.

Measurements.—

	Maximum Width of Test microns	Maximum Width of Tholi microns	Maximum Length of Spines microns
PR V (Topotypes)*	235	100	—
PR V (Topotypes)*	210	80	—
PR V (Topotypes)*	220	100	—
PR V (Topotypes)*	220	90	—
PR V (Topotypes)*	200	80	—
PR V (Topotypes)*	210	90	—
NSF 450*	240	90	—
NSF 450*	220	100	85
NSF 450*	240	100	—
NSF 450*	220	80	—
NSF 450*	245	85	—
NSF 450*	230	100	80
NSF 450*	200	80	80
NSF 55-B*	274	120	—

*See Locality Descriptions.

Range. — Early to late Campanian. See Text-figure 4.

Occurrence. — Early Campanian portion of the San Felipe Formation and Méndez Shale of Mexico. Early Campanian portion of the Parguera Limestone and Cariblanco Formation of Puerto Rico. Early Campanian portion of the Parapedhi Formation of Cyprus. Occurrence in Great Valley Sequence shown in Text-figure 5.

Pseudoaulophacus lenticulatus (White) Pl. 29, figs. 5-6; Pl. 30, figs. 1-3

1928. *Baculogypsina*(?) *lenticulata* White, Jour. Paleont., vol. 2, No. 4, p. 306, pl. 41, figs. 9, 11.

TEXT-FIGURE 5: Occurrence of Pseudoaulophacidae Riedel at selected localities in the Great Valley Sequence.

KEY:
▒ RARE: 1-2 specimens
☒ COMMON: 3-5 specimens
■ ABUNDANT: 6+ specimens

	"ANTELOPE SHALE"	VENADO FM		"MARSH CREEK FM"	BUDDEN CANYON FM	VENADO FM	YOLO FM		BUDDEN CANYON FM	YOLO FM	SITES FM			FUNKS FM							FORBES FM										PANOCHE GP UNDIFF		FORBES FM		"MARSH CREEK FM"			
																					"DOBBINS SHALE" MEMBER							(UPPER)										
	EARLY TURONIAN				LATE TURONIAN		LATE TURONIAN/ CONIACIAN		CONIACIAN						SANTONIAN		CONIACIAN	SANTONIAN			EARLY CAMPANIAN							LATE CAMPANIAN					LATEST CAMPANIAN					
	591	432	697	705	625	647	483	644	632	291	316	319	377	202	203	207	227	231	526	487	32	134	55	61	191	482	531	210	481	480	450	451	214c	222'	568	571	572	573
Alievium gallowayi White																■		■	■	☒	■	■	■	■	■	☒	■	■	■	☒	☒	■						
Alievium murphyi, n. sp			☒ cf	☒ cf		☒ cf	☒	☒ cf	☒ cf							☒		■			■	■		■	☒	▒	☒	■	■	☒	☒	☒	▒	■	☒	▒	■	▒
Alievium praegallowayi, n. sp							■		☒ ?	■	▒	■	■				☒ ?		☒	☒																		
Alievium superbus (Squinabol	▒	☒	■	■	▒		☒	☒																														
Pseudoaulophacus colburni, n. sp																		☒ ?		▒	☒	■	☒	■	■	☒	■											
Pseudoaulophacus floresensis Pessagno																					☒	☒	■	☒	☒	▒	☒	■	■	■	☒	☒	▒					
Pseudoaulophacus lenticulatus (White							▒	▒			☒		▒		☒	▒		☒			■	■		■	■		■	▒	▒	☒		▒						
Pseudoaulophacus praefloresensis, n. sp							■		☒	■	■	■	■	■	■	■	■	■	■	■	☒	☒	■	■	☒	☒	☒	☒	☒	☒	▒							
Pseudoaulophacus putahensis, n. sp		▒	■	▒	▒	▒		■																														
Pseudoaulophacus venadoensis, n. sp							■		☒	■	■	■	■	■	■	■	■	■	■	■																		

1962. *Aulophacus lenticulatus* (White), Pessagno, Micropaleontology, vol. 8, No. 3, p. 364, pl. 6, figs. 1-2.
1963. *Pseudoaulophacus lenticulatus* (White), Pessagno, Micropaleontology, vol. 9, No. 2, p. 202, pl. 2, figs. 8-9.

Description. — Test circular to elliptical in outline with well-developed centrally placed tholi; tholi about one-third to one-half diameter of test. Meshwork relatively coarse for genus. Test with 12 (?) short, massive primary spines which are circular in axial section.

Remarks. — *P. lenticulatus* (White) most closely resembles *P. pargueraensis* Pessagno. It differs from the latter species by having a round rather than a lobate periphery and by having larger tholi. It is likely that *P. lenticulatus* arose from *P. venadoensis* or a related form by Coniacian times via a change in test shape from subtriangular to circular and the acquisition of more primary spines. Transitional forms (see *Pseudoaulophacus* sp. A.) have been observed in late Turonian/early Coniacian strata which show a circular test with three primary spines that are circular in axial section.

Measurements. —

	Maximum Diameter of Test microns	Maximum Diameter of Tholi microns	Maximum Length of Spines microns
NSF 134-B*	280	100	80
	280	120	60
	267	89	67
	187.5	75	—
NSF 32-B*	248.0	100	—
PR V*	250	80	—
	240	100	—
	240	100	—
	250	120	—
	210	90	—
	240	80	—
	190	70	—
	240	80	—

*See Locality Descriptions.

Range. — Late Turonian/early Coniacian to late Campanian. Text-figure 4.

Occurrence. — Early Campanian portion of the Parguera Limestone and Cariblanco Formation of Puerto Rico; San Felipe Formation and Méndez Shale of México; and the Parapedhi Formation of

Cyprus. Strata of Coniacian to early Santonian age in the Blake-Bahama Basin (JOIDES Leg 1, Site 4, Core 2, Section 1). Occurrence in Great Valley Sequence indicated in Text-figure 5.

Pseudoaulophacus pargueraensis Pessagno Pl. 30, fig. 4.

1963. *Pseudoaulophacus pargueraensis* Pessagno, Micropaleontology, vol. 9, No. 2, p. 204, pl. 2, figs. 4, 7; pl. 6, figs. 4, 5.

Description. — Test circular with lobate periphery. Lobate periphery with 10 to 12 (usually 11) lobes; each lobe bearing a short spine when specimens are well preserved. Tholi comprising one-quarter to one-half of test diameter.

Remarks.— *P. pargueraensis* Pessagno is closely related to *P. lenticulatus* (White). A comparison of the two species is presented under *P. lenticulatus.*

Measurements. —

	Maximum Diameter of Test microns	Maximum Width of Tholi microns	Maximum Length of Spines microns
PR V (Topotypes)*	270	80	—
	260	100	—
	190	50	—
	200	—	—
	240	60	—
	260	100	—

*See Locality Descriptions.

Range. — Early Santonian to early Campanian. Text-figure 4.

Occurrence. — Early Campanian portion of the Parguera Limestone and Cariblanco Formation of Puerto Rico. Coniacian early Santonian strata of Blake-Bahama Basin (JOIDES Leg 1, Site 4, Core 2, Section Cyprus). To date, this species has not been found in the Upper Cretaceous of northern California. Its occurrence, thus far, is limited to the Tethyan Faunal Province.

Pseudoaulophacus praefloresensis Pessagno, n. sp. Pl. 27, figs. 2-6

Description. — Test subtriangular with three long spines situated at three corners; spines usually circular in axial section; rarely triradiate proximally. Test planiform laterally, tending to be slightly concave around tholi. Tholi circular in shape; approximately one-third to one-half diameter of test. Periphery sharply angled with imperforate keel.

Remarks. — *P. praefloresensis,* n. sp., differs from *P. floresensis* Pessagno (1) by possessing a test which is planiform laterally and somewhat concave around its tholi and (2) by possessing a more sharply angled periphery with an imperforate keel. Its tholi are proportionately smaller than those of *P. floresensis* and tend to possess coarser meshwork. *P. praefloresensis* differs from *P. venadoensis,* n. sp., by having spines that are much longer and by having proportionately larger tholi. *P. praefloresensis,* n. sp., is compared to *P. colburni,* n. sp., under the latter species.

Measurements. —

	Maximum Width of Test microns	Maximum Width of Tholi microns	Maximum Length of Spines microns
Holotype (USNM 165593)	190	70	100
Paratype (USNM 165594)	200	60	—
	170	50	—
	190	50	70
Paratypes (Pessagno Coll.)	180	60	130
	170	40	—
	190	50	—
	150	50	—
	170	40	—
	170	50	—

Type locality. — *NSF 483.* See Locality Descriptions.

Deposition of types. — Holotype = USNM 165593. Paratypes = USNM 165594 and Pessagno Collection, University of Texas at Dallas.

Range. — Late Turonian/Coniacian to late Campanian. Text-figure 4.

Occurrence. — See Text-figure 5 and Locality Descriptions.

Pseudoaulophacus putahensis, n. sp. Pl. 27, fig. 1

Description. — Test subtriangular with three primary spines that are triradiate in axial section. Secondary spines subequatorial, circular in axial section. Test surface relatively planiform laterally; tholi about one-half to one-third diameter of test; relatively low in relief.

Remarks. — *Pseudoaulophacus putahensis,* n. sp., appears to be one of the first species of *Pseudoaulophacus* to make its appearance in the Upper Cretaceous. Because it shows well-developed triradiate primary spines and tholi that are low in relief, it may well be linked to *Alievium superbus* (Squinabol) *s.s. P. putahensis,* n. sp., is similar to *P. praefloresensis,* n. sp. It differs from *P. praefloresensis* by showing markedly triradiate primary spines and tholi that are low in relief. It is probable that *P. putahensis* gave rise to *P. praefloresensis* during late Turonian or early Coniacian times through the acquisition of primary spines that are circular in axial section and tholi that are greater in relief. *P. putahensis* is named for Putah Creek, Yolo County, California.

Measurements. —

	Maximum Width of Test microns	Maximum Width of Tholi microns	Maximum Length of Spines microns
Holotype (USNM 165599)	200	84	—
Paratype (USNM 165600)	160	70	—
Paratype (USNM 165600)	200	80	60
Paratypes (Pessagno Coll.)	220	70	—
	210	70	60
	200	60	50
	190	70	50
	150	70	—

Type Localities. — The holotype is from *NSF 432-B.* The remaining paratypes are from *NSF 705.* See Locality Descriptions. *Deposition of types.* Holotype = USNM 165599. Paratypes = USNM 165600 and Pessagno Collection, University of Texas at Dallas.

Range. — Middle to late Turonian. See Text-figure 4.

Occurrence. — See Text-figure 5 and Locality Descriptions.

Pseudoaulophacus venadoensis Pessagno, n. sp. Pl. 28, figs. 1-3

Description. — Test subtriangular, slightly convex laterally with three short thin spines situated at corners and imperforate, sharply angled keel. Spines circular in axial section. Tholi one-quarter to one-third diameter of test.

Remarks. — *P. venadoensis,* n. sp., differs from *P. floresensis* Pessagno by having a more compressed test laterally, by having a well-developed imperforate, sharply angled keel, and by having three short thin spines at the test corners. A comparison of *P.*

venadoensis with *P. praefloresensis* has been presented under the latter species.

This species is named for the ghost town of Venado or "Mountain House" in Colusa County, California.

Measurements. —

	Maximum Width of Test microns	Maximum Width of Tholi microns	Maximum Length of Spines microns
Holotype (USNM 165590)	240	70	—
Paratype (USNM 165591)	220	50	—
Paratype (USNM 165592)	220	50	—
Paratype (USNM 165592)	200	50	—
Paratype (USNM 165592)	230	40	—
Paratype (USNM 165592)	195	50	—
Paratype (USNM 165592)	250	70	—
Paratype (USNM 165592)	220	70	—
Paratype (Pessagno Coll.)	210	75	25
Paratype (Pessagno Coll.)	200	70	35
Paratype (Pessagno Coll.)	230	75	—

Type locality. — *NSF 316-B.* See Locality Descriptions.

Deposition of Types. — Holotype = USNM 165590. Paratypes = USNM 165591 - 165592.

Range. — Late Turonian/Coniacian to Santonian. See Text-figure 4.

Occurrence. — See Text-figure 5 and Locality Descriptions.

Pseudoaulophacus sp. A Pl. 30, fig. 6

Remarks. — *P.* sp. A appears to link *P. praefloresensis/venadoensis* with *P. lenticulatus.* It possesses the circular test and rather wide tholi of *P. lenticulatus* but the three primary spines and imperforate keel of *P. praefloresensis/venadoensis.*

Range and occurrence. — This form has been encountered thus far in the Yolo Formation at *NSF 483-B* (late Turonian/Coniacian) and in the Sites Formation at *NSF 316-B* (Coniacian). It is rare in the Great Valley Sequence.

Pseudoaulophacus sp. B. Pl. 30, fig. 5

Remarks. — *P.* sp. B is most likely related to *P. praefloresensis.* The basic subtriangular test has a hexagonal symmetry superimposed on it. That is, each side of the subtriangular test possesses two facets.

Range and occurrence. — This form has been encountered only in the "Dobbins Shale" Member of the Forbes Formation at localities *NSF 55-B* and *NSF 134-B*.

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PLATES

EXPLANATION OF PLATE 22

All figures are scanning electron micrographs. Markers = 100 microns.

Figure Page

1. **Phaseliforma carinata** Pessagno, n. sp. 274
Holotype (USNM 165575). A = anterior; P = posterior. *NSF 568-B;* "Marsh Creek Formation"; latest Campanian. Outer layer of meshwork only present on anterior end.

2. **Phaseliforma carinata** Pessagno, n. sp. 274
Paratype (USNM 165576). A = anterior; P = posterior. Test surface greatly crenulate; periphery with well-developed keel. Outer layer of meshwork only preserved on anterior and posterior ends. *NSF 571.* "Marsh Creek Formation"; latest Campanian.

3. **Phaseliforma carinata** Pessagno, n. sp. 274
Paratype (Pessagno College). A = anterior end; P = posterior end. Outer layer of meshwork preserved except in central area. *NSF 568-B.* "Marsh Creek Formation"; latest Campanian.

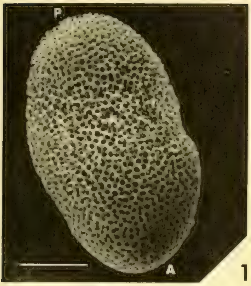
4. **Phaseliforma meganosensis** Pessagno, n. sp. 277
Holotype (USNM 165566). A = anterior; P = posterior. Outer layer of meshwork preserved only on anterior and posterior ends. *NSF 568-B.* "Marsh Creek Formation"; latest Campanian.

5, 6. **Phaseliforma meganosensis** Pessagno, n. sp. 277
Paratype (Pessagno Collection). Specimen in figure 5 stripped of several outer layers of meshwork. A = anterior; P = posterior. *NSF 568-B.* "Marsh Creek Formation"; latest Campanian.

7. **Phaseliforma concentrica** (Lipman) 275
NSF 483. Yolo Formation; latest Turonian/earliest Coniacian.

8. **Phaseliforma carinata** Pessagno, n. sp. 274
Paratype (USNM 165577). Peripheral view. A = anterior; P = posterior; K = keel. Note somewhat more imperforate nature of keel. *NSF 568-B.* "Marsh Creek Formation"; latest Campanian.

9. **Phaseliforma meganosensis** Pessagno, n. sp. 277
Topotype. Natural section of test demonstrating concentric nature of meshwork. *NSF 568-B.* "Marsh Creek Formation"; latest Campanian.



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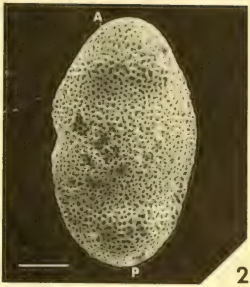

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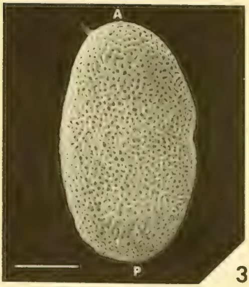

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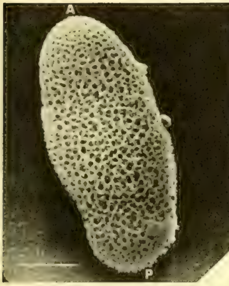

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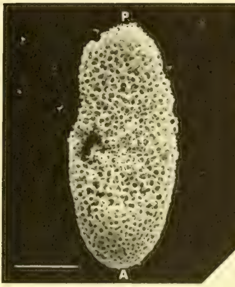

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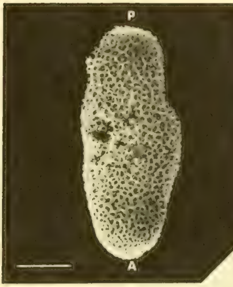

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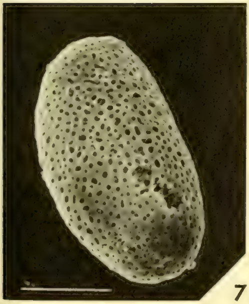

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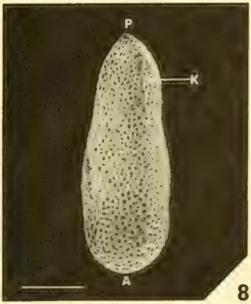

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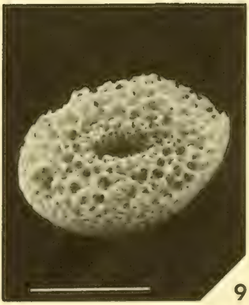

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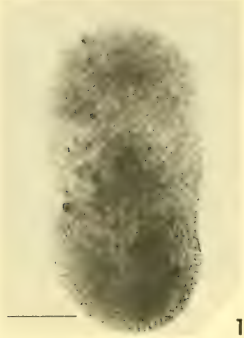
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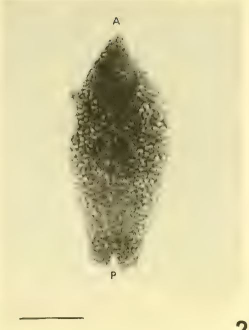

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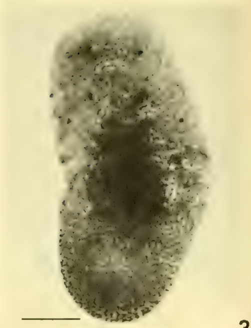
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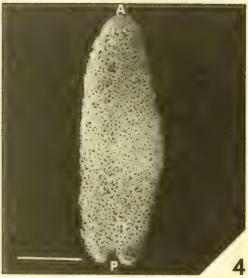

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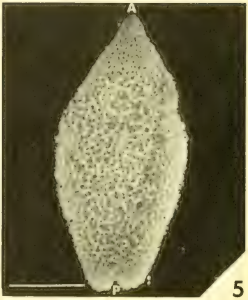

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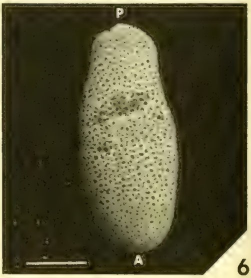

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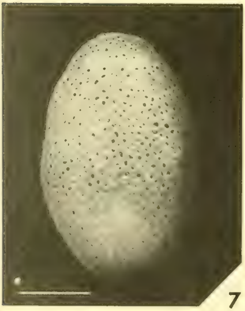
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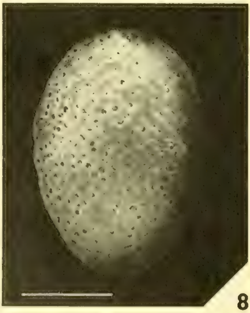
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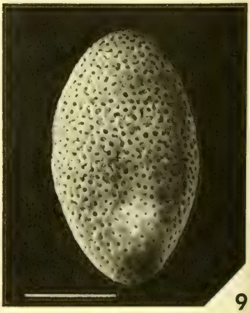
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EXPLANATION OF PLATE 23

All figures except figures 1-3 are scanning electron micrographs. Markers on all figures = 100 microns.

Figure Page

1. **Phaseliforma carinata** Pessagno, n. sp. 274
Topotype. *NSF 568-B*. "Marsh Creek Formation"; latest Campanian.

2. **Parvicuspis shastaensis** Pessagno, n. sp. 279
Paratype (USNM 165583). A = anterior; P = posterior. *NSF 32-B*. Forbes Formation ("Dobbins Shale" Member); early Campanian.

3. **Phaseliforma** sp. 278
Possesses angled periphery like that of *P. carinata*, n. sp. Note concentric meshwork. *NSF 568-B*. "Marsh Creek Formation"; latest Campanian.

4. **Parvicuspis colusaensis** Pessagno, n. sp. 278
Holotype (USNM 165580). A = anterior; P = posterior. *NSF 32-B*. Forbes Formation ("Dobbins Shale" Member); early Campanian.

5. **Parvicuspis shastaensis** Pessagno, n. sp. 279
Holotype (USNM 165582). A = anterior; P = posterior. *NSF 32-B*. Forbes Formation ("Dobbins Shale" Member); early Campanian.

6. **Phaseliforma meganosensis** Pessagno, n. sp. 277
Paratype. (USNM 165567). A = anterior; P = posterior. *NSF 568-B;* "Marsh Creek Formation"; latest Campanian.

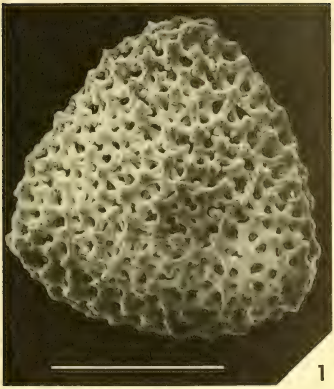
7. **Phaseliforma laxa** Pessagno, n. sp. 276
Holotype (USNM 165578). *NSF 572*. "Marsh Creek Formation"; latest Campanian.

8, 9. **Phaseliforma laxa** Pessagno, n. sp. 276
Paratypes (Pessagno College) *NSF 572*. "Marsh Creek Formation"; latest Campanian.

EXPLANATION OF PLATE 24

Scale equals 100 microns unless otherwise indicated.

Figure		Page
1, 2.	**Alievium antiguum** Pessagno, n. sp. .... Holotype (USNM 165595). JOIDES Leg I, Site 5A, Core 3, Section 1, Core Catcher; Blake-Bahama Basin; late Aptian. Fig. 2. Meshwork at higher magnification; marker = 25 microns.	298
3.	**Alievium antiguum** Pessagno, n. sp. .... Paratypes (USNM 165596). JOIDES Leg I, Site 5A, Core 3 Section 1, Core Catcher. Blake-Bahama Basin; late Aptian.	298
4.	**Alievium antiguum** Pessagno, n. sp. .... Topotype destroyed during microscopy. Note broken triradiate spines with narrow grooves. Same locality as above; late Aptian.	298
5, 6.	**Alievium superbus** (Squinabol) .... Note triradiate primary spines with broad, open grooves. *NSF 697*. Early to middle Turonian. Venado Formation.	302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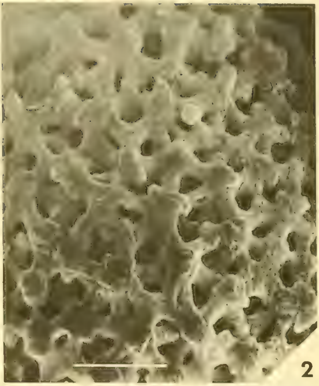
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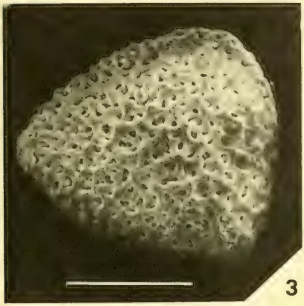
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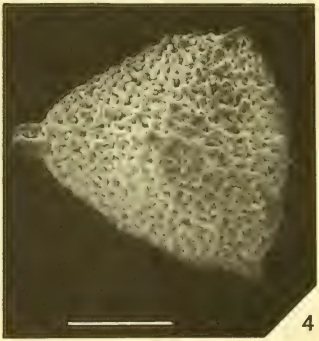
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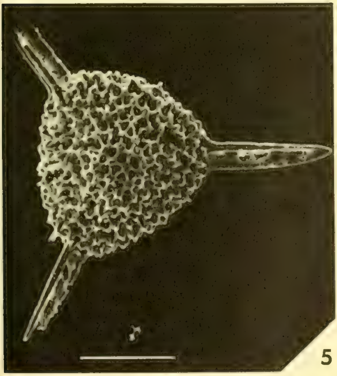
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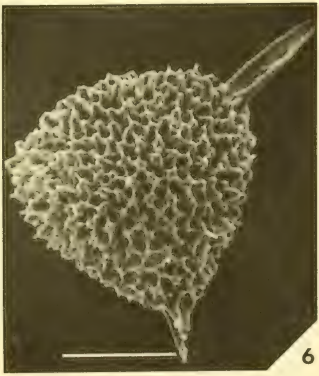
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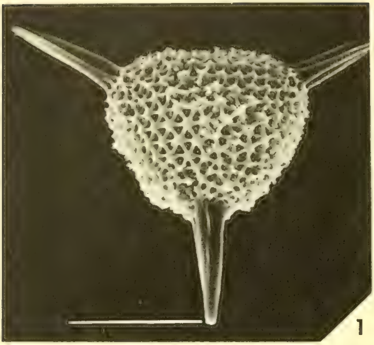
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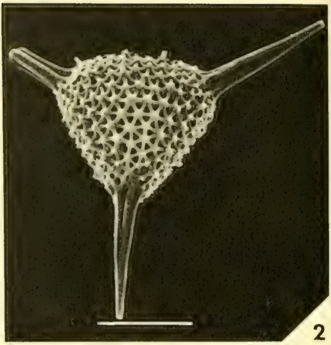
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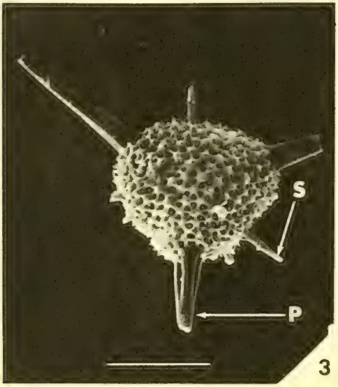

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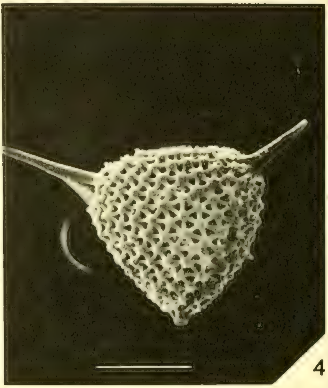
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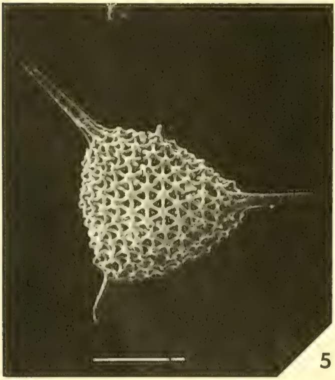
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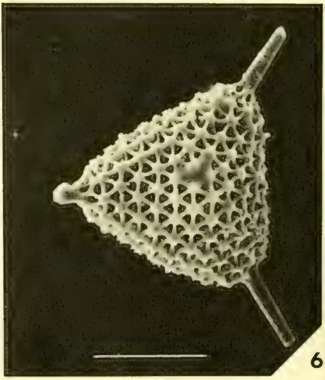
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Explanation of Plate 25

Scales on all figures equal 100 microns.

Figure Page

1. **Alievium superbus** (Squinabol) 302
Note triradiate primary spines. Somewhat more advanced form than those in Pl. 24, figs. 5, 6. Grooves slightly narrower and ridges more rounded. *NSF 483*. Latest Turonian/ earliest Coniacian; Yolo Formation.

2. **Alievium praegallowayi** Pessagno, n. sp. 301
Paratype (USNM 165584). Note that only proximal half of primary spine is triradiate and ridges are more rounded and grooves quite narrow. *NSF 483*. Latest Turonian/earliest Coniacian; Yolo Formation.

3. **Alievium praegallowayi** Pessagno, n. sp. 301
Paratype (USNM 165585). P = primary spine; S = secondary spine. *NSF 483*. Late Turonian/earliest Coniacian; Yolo Formation.

4-6. **Alievium gallowayi** (White) 299
Note thin, often cylindrical primary spines that are circular in axial section. Rarely proximal end (base) of primary spine may be triradiate as in figure 5. *NSF 32-B*. Early Campanian; Forbes Formation ("Dobbins Shale" Member).

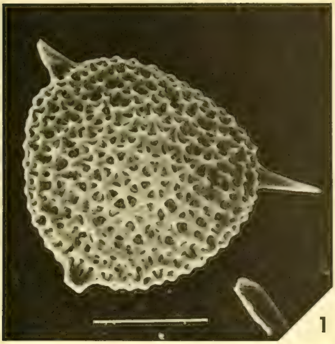
EXPLANATION OF PLATE 26

Figure Page

1-4. **Alievium murphyi** Pessagno, n. sp. 300
Holotype (USNM 165587). Figs. 1, 2. Scale = 100 microns; note slightly raised central portion of test in figure 2. Figure 3 illustrates a primary spine; scale = 25 microns. Fig. 4. Cross-section of primary spine; scale = 10 microns.

5. **Alievium gallowayi** (White) 299
View of meshwork at higher magnification; same specimen as in Pl. 25, fig. 6. Bars connecting with massive nodes to form equilateral triangular frames. Scale = 10 microns.

6. **Pseudoaulophacus floresensis** Pessagno 304
Natural section demonstrating concentric layering. *NSF 32-B*. Early Campanian; Forbes Formation ("Dobbins Shale" Member). Scale = 100 microns.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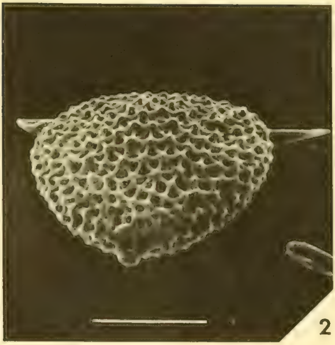
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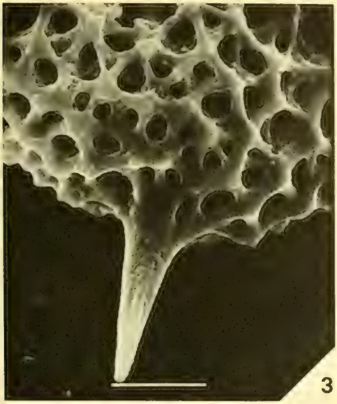
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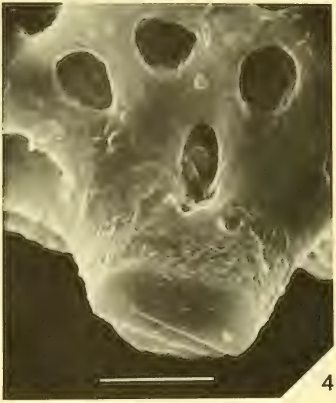
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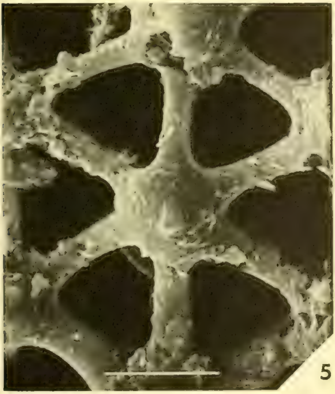
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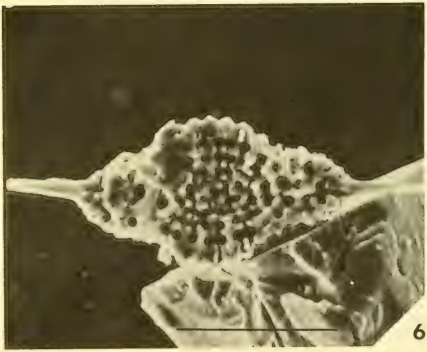
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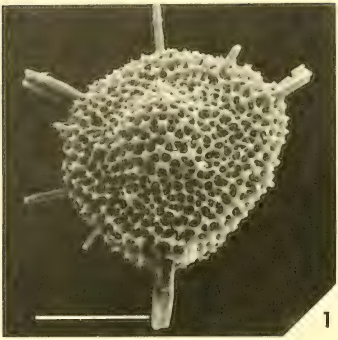
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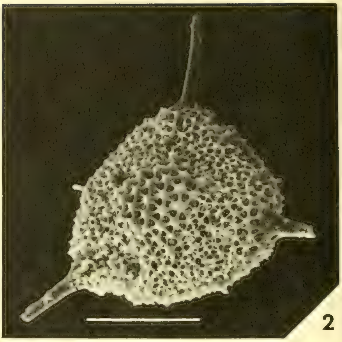
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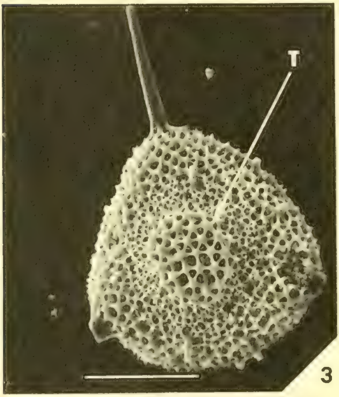

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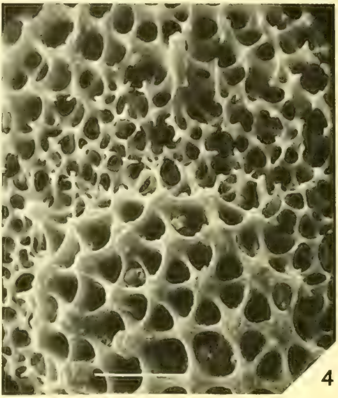
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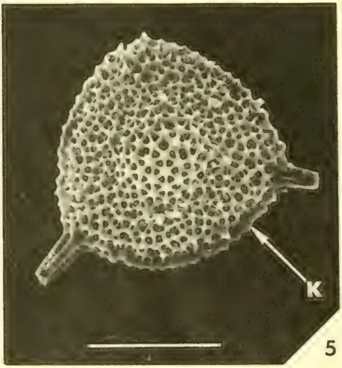

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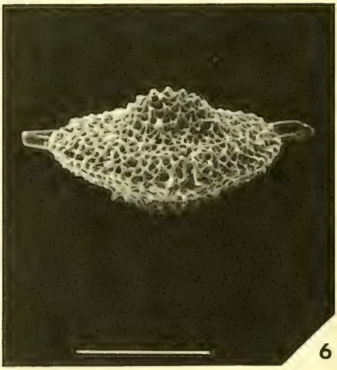
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EXPLANATION OF PLATE 27

Scales on all figures equal 100 microns unless otherwise noted.

Figure		Page
1.	**Pseudoaulophacus putahensis** Pessagno, n. sp. .... Holotype (USNM 165599). Note low, poorly developed tholus and triradiate primary spines. *NSF 432-B*. Middle Turonian. Venado Formation.	310
2, 5, 6.	**Pseudoaulophacus praefloresensis** Pessagno, n. sp. . . .. Paratypes (Pessagno Collection). K = keel. *NSF 483*. Latest Turonian/earliest Coniacian; Yolo Formation.	309
3, 4.	**Pseudoaulophacus praefloresensis** Pessagno, n. sp. .. Holotype (USNM 165593). T = tholus; note coarser meshwork relative to rest of test. Figure 4 shows meshwork of tholus at greater magnification; note patagium-like irregular meshwork in concave area surrounding tholus; scale in figure 4 = 25 microns. *NSF 483*. Latest Turonian/earliest Coniacian. Yolo Formation.	309

EXPLANATION OF PLATE 28

Scales on all figures equal 100 microns.

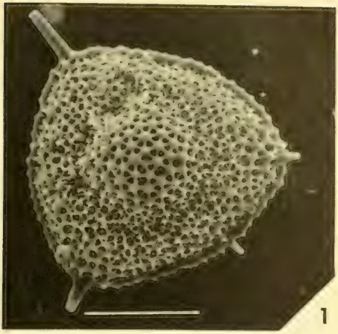
Figure Page

1, 3. **Pseudoaulophacus venadoensis** Pessagno, n. sp. 311
Paratypes (USNM 165592). *NSF 316-B.* Coniacian. Sites Formation.

2. **Pseudoaulophacus venadoensis** Pessagno, n. sp. 311
Holotype (USNM 165590). Note well-developed keel. *NSF 316-B.* Coniacian. Sites Formation.

4, 5. **Pseudoaulophacus floresensis** Pessagno 304
Specimen from late Campanian portion of the Panoche Group (undifferentiated). *NSF 451.*

6. **Pseudoaulophacus floresensis** Pessagno 304
Specimen from Forbes Formation. ("Dobbins Shale" Member). *NSF 55-B.* Early Campanian.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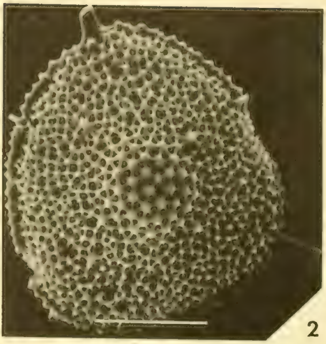
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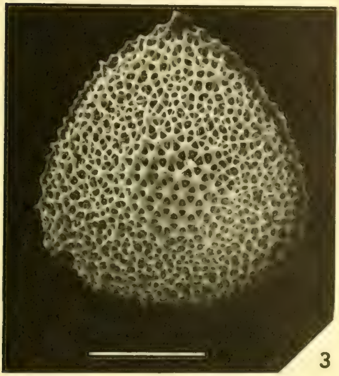
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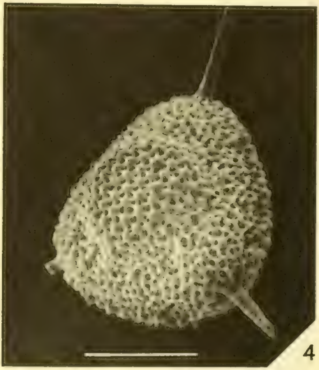
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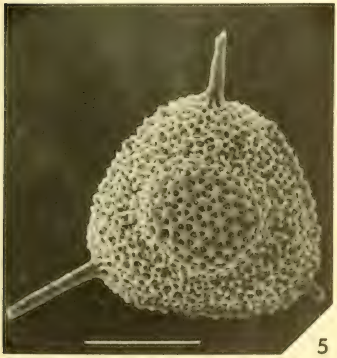
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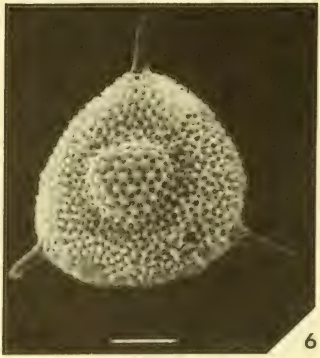
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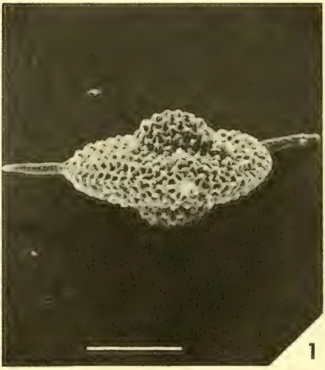
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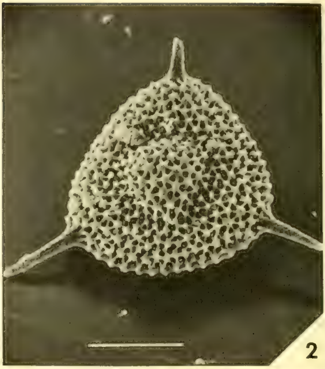
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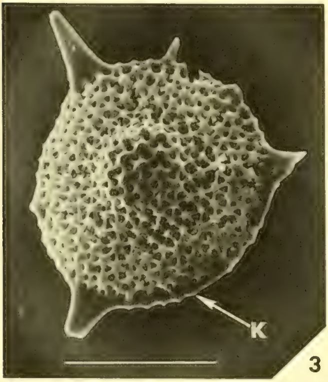

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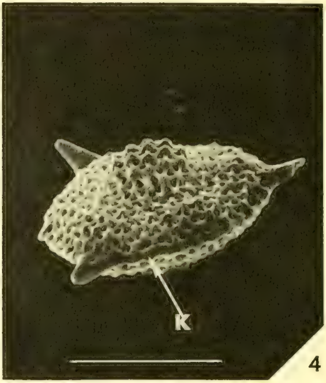

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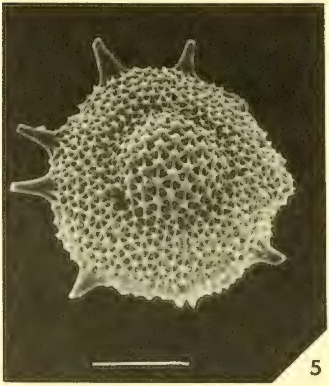
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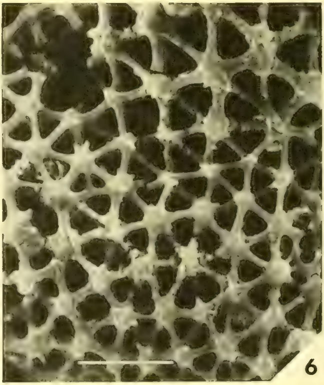
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EXPLANATION OF PLATE 29

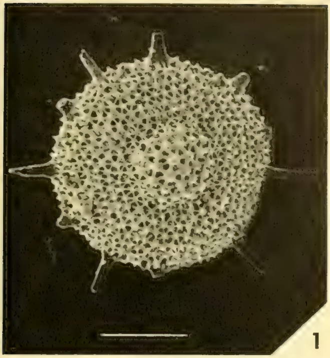
Scales on all figures 100 microns unless otherwise indicated.

Figure		Page
1, 2.	**Pseudoaulophacus floresensis s.l.** Pessagno Tholi somewhat smaller than on typical form. *NSF 32-B*. Early Campanian. Forbes Formation ("Dobbins Shale" Member).	304
3, 4.	**Pseudoaulophacus colburni** Pessagno, n. sp. Holotype (USNM 165597). Note massive, short spines, massive meshwork, and imperforate keel (*K*). *NSF 134-B*. Early Campanian; Forbes Formation ("Dobbins Shale" Member).	303
5, 6.	**Pseudoaulophacus lenticulatus** (White) Figure 6 illustrates triangular meshwork at higher magnification; marker in figure 6 = 25 microns. *NSF 32-B*. Early Campanian; Forbes Formation ("Dobbins Shale" Member).	306

EXPLANATION OF PLATE 30

Scales on all figures equal 100 microns.

Figure		Page
1-3.	**Pseudoaulophacus lenticulatus** (White) Specimen in figure 3 atypical in shape. *NSF 134-B*. Early Campanian; Forbes Formation ("Dobbins Shale" Member).	306
4.	**Pseudoaulophacus pargueraensis** Pessagno Topotype; meshwork somewhat obscured by matrix. *PR V*. Early Campanian portion of the Parguera Limestone of Puerto Rico.	309
5.	**Pseudoaulophacus** sp. B *NSF 134-B*. Early Campanian; Forbes Formation ("Dobbins Shale" Member).	312
6.	**Pseudoaulophacus** sp. A. *NSF 319-B*. Coniacian Sites Formation.	312



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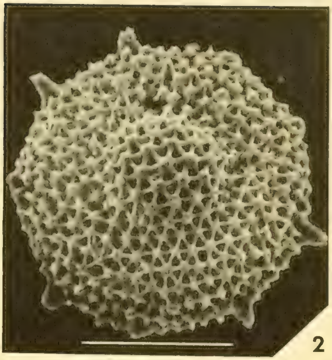

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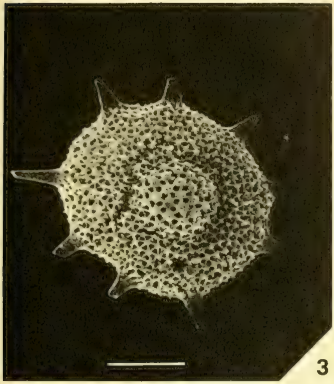

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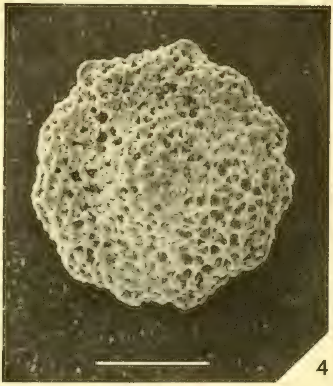

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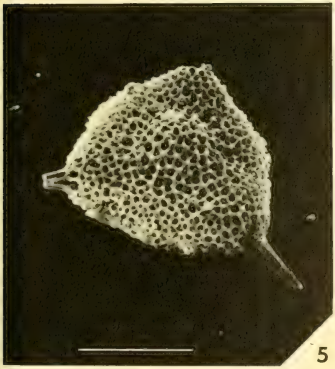

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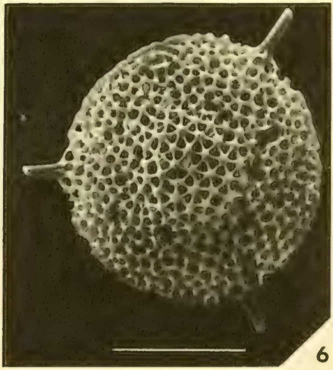

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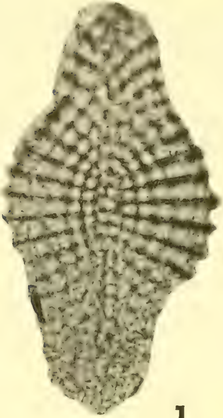

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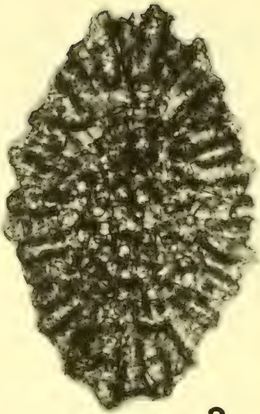

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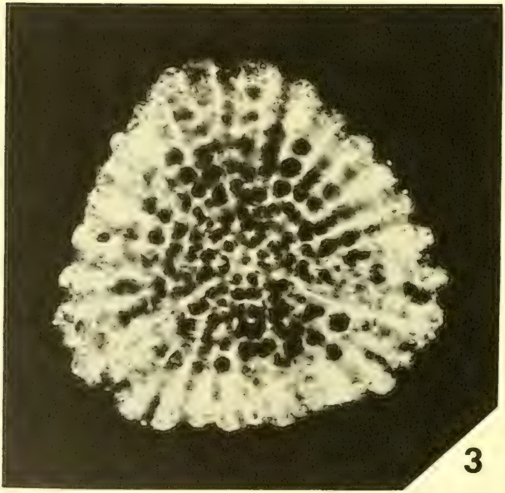

3

EXPLANATION OF PLATE 31

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